10

STANDING COMMITTEE ON ENERGY (2009-2010)

FIFTEENTH LOK SABHA

MINISTRY OF POWER

AVAILABILITY OF GAS AND COAL FOR POWER SECTOR

TENTH REPORT

LOK SABHA SECRETARIAT
NEW DELHI

August, 2010/Sravana, 1932 (Saka)

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Presented to Lok Sabha on 21 August, 2010
Laid in Rajya Sabha on 21 August, 2010

LOK SABHA SECRETARIAT
NEW DELHI

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CONTENTS

PAGE

COMPOSITION OF THE COMMITTEE (2009-10)..... (iii)

INTRODUCTION..... (v)

REPORT

PART-I

NARRATION ANALYSIS

Introductory..... 1

A. Availability of Coal for Power Sector..... 2

I. Requirement of Coal and its Supply..... 2

II. Development of Coal Blocks..... 19

III. Environmental Clearances to Coal Projects..... 25

IV. Acquisition of Coal Mines Abroad..... 32

V. Import of Coal..... 33

VI. Transportation of Coal..... 35

B. Availability of Gas for Power Sector..... 39

I. Gas Requirement and Supply Position in 11th Plan..... 40

II. Gas Requirement for Power Sector for 12th Plan..... 41

III. Transnational Pipelines..... 49

PART-II

Observations/Recommendations of the Committee..... 53

APPENDICES

I. List of thermal power stations where ACQ under FSA was less than the requirement..... 66

II Minutes of the Sittings of the Committee held on 26.10.2009, 12.11.2009, 22.04.2010 and 10.08.2010..... 69

COMPOSITION OF THE STANDING COMMITTEE ON ENERGY
(2009-2010)

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2.	Shri N.K. Pandey	—	*Additional Director*
3.	Shri Manish Kumar	—	*Committee Assistant*

*Nominated *w.e.f.* 26.02.2010.

INTRODUCTION

I, the Chairman, Standing Committee on Energy having been authorized by the Committee to present the Report on their behalf, present this Tenth Report on 'Availability of Gas and Coal for the Power Sector'.

2. The Committee took evidence of the representatives of the Ministry of Power, Ministry of Coal and Ministry of Petroleum and Natural Gas on 26.10.2009, 12.11.2009 and 22.04.2010. The Committee wish to express their thanks to the representatives of the Ministries for appearing before the Committee for evidence and furnishing the information desired by the Committee in connection with examination of the subject.

3. The Report was considered and adopted by the Committee at their sitting held on 10th August, 2010.

4. The Committee place on record their appreciation for the valuable assistance rendered to them by the officials of the Lok Sabha Secretariat attached to the Committee.

5. For facility of reference and convenience, the observations and recommendations of the Committee have been printed in bold letters in Part-II of the Report.

NEW DELHI;
18 *August*, 2010
27 *Sravana*, 1932 *(Saka)*

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on Energy.

REPORT

PART I

NARRATION ANALYSIS

INTRODUCTORY

The country's present power generation capacity is about 1,60,000 MW. Capacity addition for the 11th Five Year Plan (2007-12) is estimated to be 62,000 MW. Similarly for 12th Five Year Plan (2012-17) the estimated capacity addition is 1,00,000 MW. These plans require huge raw materials in form of coal and gas.

1.2 The Government of India declared and notified in National Electricity Policy in 2005. The main objective of the policy *inter-alia* include:—

(i) Availability of Power Demand to be fully met by 2012. Energy and peaking shortages to be overcome and spinning reserve to be available.

(ii) Supply of Reliable and Quality Power of specified standards in an efficient manner and at reasonable rates.

(iii) Per capita availability of electricity to be increased to over 1000 units by 2012.

(iv) Minimum lifeline consumption of 1 unit/household/day as a merit good by year 2012.

1.3 The Committee have examined the energy scenario in the country in a detailed manner. To achieve the objectives of the National Electricity Policy of the Government, concerted efforts by pooling all our resources including raw materials required for power generation *viz.* coal and gas, will have to be undertaken otherwise per capita availability of electricity as envisaged in National Electricity Policy will remain a distance dream for all times to come.

A. AVAILABILITY OF COAL FOR POWER SECTOR

1.4 Coal has been recognized as the most important source of energy for electricity generation in India. About 75% of the coal in the country is consumed in the power sector. In addition, other industries like steel, cement, fertilizers, chemicals, paper and thousands of medium and small-scale industries are also dependent on coal for their process and energy requirements. In the transport sector, though direct consumption of coal by the Railways is almost negligible on account of phasing out of steam locomotives, the energy requirement for electric traction is still dependence on coal converted into electric power.

1.5 In spite of various policy initiatives to diversify the fuel mix but considering the limited reserve potentiality of petroleum and natural gas, eco-conservation restriction on hydel projects and geo-political perception of nuclear power, it is becoming increasingly evident that coal will continue to occupy centre-stage of the country's energy scenario. Indigenous coal offers a fuel source to domestic energy market for the next century and beyond. Based on estimates, the consumption of coal is projected to rise by nearly 40 per cent over the next five years and almost to double by 2020. Coal accounts for over 50% of India's commercial energy consumption. This dominance of coal in country's energy mix is not likely to change till 2031-32.

(I) Requirement of Coal and its Supply

1.6 The installed capacity of power in the country as on 30.09.2009 was 1,52,360 MW, out of which coal capacity is 80,395 MW.

Thermal generation growth during the 11th Five Year Plan has been as under:—

Year	Thermal Generation (Billion KWh)	Growth (%age)
1	2	3
2007-08	558.990	5.96 (over the previous year)

1	2	3
2008-09	590.101	5.57
2009-10 (upto Sept. 09)	308.778	10.49*

*Growth is over the same period i.e. April–September, 2008.

1.7 When the Committee asked about the requirement of coal and its supply plan for 2009-10, the Ministry of Power stated:—

"For the year 2009-10, anticipated generation from coal based utility thermal power stations has been estimated as 525 Billion Unit(BU). To meet this generation and build stock up to reasonable level, coal requirement for the year worked out to be 404 Million Tonnes (MT).

The requirement and availability of coal for the year 2009-10 was reviewed by Fuel Infrastructure Committee, headed by Member (Energy), Planning Commission on 16th February, 2009. Against the total requirement of 404 MT, availability of coal from Coal India Limited (CIL) was indicated as 313 MT. taking into account 30 MT from SCCL and 20 MT from captive mines, total indigenous coal availability worked out to be 363 MT, leaving a gap of 41 MT.

The details of coal requirement and availability during 2009-10 are as follows:—

Sl.No.	Description	Unit	2009-10
1.	Coal Based Generation Target	(BU)	525
2.	Coal Requirement	(MT)	404
3.	Coal Availability		
3.1	From CIL sources	(MT)	313
3.2	From SCCL	(MT)	30
3.3	From Captive Mines	(MT)	20
3.4	Total Coal Availability	(MT)	363

1.8 The Committee also desired to know about requirement and supply scenario for 2010-11 and 2011-12. In reply the Ministry of Power has stated as under:—

"The estimated coal requirement and availability from various sources during the remaining period of XI Plan is given below:—

(Figures in MT)

Sl.No.	Details	2010-11	2011-12
(a)	Indigenous coal requirement	434.0	512
(b)	Requirement of imported coal for imported coal based projects	10.0	20
(c)	Total coal requirement	444.0	532
(d)	(i) CIL	335	360
	(ii) SCCL	31	32
	(iii) Captive Mines	22	22
(e)	Total Availability of indigenous coal	388	414
(f)	Shortfall in indigenous coal Availability (a-e)	46	98
(g)	Requirement of imported coal to meet the shortfall in indigenous coal availability	31	65
(h)	Target of imported coal fixed for utilities	35	65
(i)	Total target of imported coal (b+g)	45	85
(j)	Actual import by utilities	N.A	N.A

Note: As per Report of Working Group for the XI Plan of Ministry of Coal, availability of indigenous coal:CIL 382 MT, SCCL:29 MT and Captive mines:67 MT

While the 11th Plan Working Group on Coal had indicated the availability of indigenous coal from CIL in the year 2011-12 as 382 MT, the latest indications from CIL are likely to be of the order 360 MT. This would call for import of about 65 MT to bridge the gap of 98 MT between demand and supply of indigenous coal. In addition, import of 20 MT coal would be required by imported coal based TPSs during 2011-12 would be of the order of 85 MT."

1.9 On being asked about the capacity addition plans of the Government during the 12th Plan, the Ministry of Power stated that:—

"A capacity addition of about 1,00,000 MW may be required in power sector to meet the growing demand of power during the 12th Five Year Plan. The likely sources of capacity addition to meet this additional requirement are expected to be as under:

Hydro	20,000 MW
Nuclear	4,800 MW
Thermal	72,200 MW
Total	1,00,000 MW"

1.10 In reply to the question of the Committee that what kind of coordination is there among the various Ministries *viz.* Power, Coal and Petroleum at the time of perspective planning to ensure the adequate availability of Coal and Gas, the Ministry have stated that the following coordination mechanisms are there:—

(a) "Infrastructure Constraints Review by Secretary (Coordination), Cabinet Secretariat consisting Ministry of Power, Ministry of Coal, Ministry of Railway, Central Electricity Authority, NTPC etc.

(b) A Fuel Infrastructure Committee (Long Term) under the Ministry of Coal with representatives from all the concerned Ministries/Departments/Organizations.

(c) A Sub-Group under the Ministry of Coal with representatives from concerned Ministries so far as short term supply of coal is concerned."

1.11 When the Committee asked how the forecast of coal requirement is made while entering into Fuel Supply Agreement with Ministry of Coal, the Ministry of Power replied:

"Coal requirement, for the thermal power stations commissioned by 31st March, 2009, was estimated on the basis of actual performance of the power plant during the last three years. However, in view of limited availability of coal from CIL, Annual Contracted Quantity (ACQ) for the year 2009-10 for entering into the Fuel Supply Agreement (FSA) was less than the requirement of the power plants. For new thermal power plants *i.e.* plants commissioned after 1st April, 2009, ACQ is yet to be decided. However, the normative requirement of a new power plant is estimated on the basis of 90% Plant Load Factor (PLF)."

1.12 On requiring the list of thermal power stations where ACQ under FSA was less than the requirement, the Ministry furnished the data which is enclosed as **Annexure-1**.

1.13 When the Committee desired to know whether the present arrangement will be sufficient to meet the demand, the Ministry stated that:—

"For the year 2010-11, the coal requirement for the indigenous coal based thermal units *vis-à-vis* coal availability from indigenous sources and coal requirement for plants designed on imported coal is detailed below:—

(Figure in MT)

Sl.No	Description	2010-11
1	2	3
1.	Coal Requirement:	
1.1	For plants designed on indigenous coal	434

1	2	3
1.2	For plants designed on imported coal	10
1.3	Total	444
2	Coal Availability from indigenous sources	
2.1	From CIL	335
2.2	From SCCL	31
2.3	From Captive Mines	22
2.4	Total coal availability from indigenous sources	388
3	Shortfall of indigenous coal	46
4	Coal to be imported to meet the shortfall for the plants designed on domestic coal	31
4.2	Target of imported coal fixed for utilities	35
5	Coal requirement for plants designed on imported coal	10

From the above, it may be seen that the anticipated shortfall of 52 MT in the availability of indigenous coal, is planned to be met through import of 35 MT coal by Power Utilities. In addition to this, 12 MT of imported coal is required for power stations designed on imported coal.

Availability of coal for new units *i.e.* units commissioned after 1st April, 2009 and the units likely to be commissioned during 2010-11

Out of 335 MT coal supply proposed by CIL for the year 2010-11, 306 MT is meant for the Power Stations in operation on 31st March, 2009 and balance 29 MT would be available for the Power Stations commissioned during 2009-10 and to be commissioned during 2010-11. However, the total coal requirement of the power stations commissioned during 2009-10 and partial coal requirement of the

power stations to be commissioned during 2010-11, commensurate with their commissioning schedules, works out to 59 MT. Blending with about 10-15% of imported coal, would be equal to 6-9 MT coal stock reported to be at the mine-heads of CIL and considering the shortfall of around 15 MT in the dispatches by CIL, the problem can be addressed through supply of about 15-20 MT coal by CIL in addition to 335 MT already committed by CIL.

To meet the shortfall (after taking into account the import) the Ministry of Power informed the Committee that, CIL may be impressed upon for supplying additional 15-20 MT of coal. At present, CIL is having an all time high coal stock of more than 60 MT during 2009-10, CIL has supplied around 299 MT. This shortfall in CIL's supply during 2009-10 could be supplied during 2010-11.

The coal supply scenario for the new plants likely to be commissioned in 2011-12 and beyond is likely to aggravate further in view of substantial coal based capacity likely to be commissioned and indications of additional availability at the rate of 20 MT per year by CIL during the 12th Plan."

1.14 When the Committee desired to know about the mechanism of Fuel Supply Agreement and its efficacy to ensure the adequate availability of coal for Power Stations, the Ministry of Power stated:—

"FSA is a legally enforceable contract between the power utilities and the coal companies. In the FSA, there are provisions for incentives for fulfilling the contractual obligations and penalties for not being able to meet them.

Signing of Fuel Supply Agreement (FSA) is in process. Out of 25 power utilities, 12 power utilities have signed the FSA, 6 Utilities are in the process of signing the FSA. Ministry of Power is pursuing with the power utilities to conclude the FSA at the earliest.

In view of limited availability of indigenous coal, Annual Contracted Quantity (ACQ) signed through FSA is not adequate to

meet the generation requirement. However, to bridge the gap between demand the indigenous availability of coal, power utilities have been advised to import accordingly."

1.15 When the Committee asked the Ministry of Coal to place their views regarding the meeting the gap between demand and supply gap and their plan in this regard, the Ministry of Coal stated:—

"As per Annual Plan of the Ministry of Coal, the total coal demand in respect of power utilities during 2009-10 has been assessed at 397.54 Million Tonnes. Out of this, CIL is required to supply 312.17 or 313 MT, SCCL is required to supply 27.80 MT and 22.30 MT by others, including captive mines. To meet the gap in indigenous supply and expected coal demand, Ministry of Power has advised power utilities to import 28.70 MT during 2009.10, therefore, the coal demand of power utilities during 2009-10 is likely to be met in aforesaid manner, unless there is any slip up in expected supplies from Coal PSUs or from captive sources of power plants or lesser imports by power utilities.

As per the provisions of New Coal Distribution Policy, 100% of the normative requirements of the consumers would be considered for supply of coal, through Fuel Supply Agreements (FSAs) by Coal India Limited/SCCL. Any additional requirement over and above normative requirement has to be met by the consumers on their own either through e-auction or imports.

Meanwhile, at the initiative of Ministry of Power, an understanding has been reached between CEA and CIL. As per understanding between CIL and CEA, CIL has earmarked 307 million tonnes for meeting coal requirements of 78 thermal power stations during 2009-10 and 6 MT will be available for meeting coal requirements of new projects coming up during 2009-10. CEA has to decide the coal allocation for new projects and the concerned power utilities has to sign FSA accordingly. If any of the power utilities have reported that the Annual Contracted Quantity (ACQ) is less

than their requirement, CEA may have to consider re-allocation within overall approved commitment of 307 million tonnes during 2009-10."

1.16 Additional coal requirement for new projects commissioned in 2009-10 and to be commissioned in 2010-11 is 59 MT while availability of coal for the same from CIL is 29 MT. The Committee asked the Ministry of Coal to explain how they intend to address this problem. In reply to that the Ministry of Coal stated:

"After introduction of New Coal Distribution Policy (NCDP) in October, 2007, coal supply to all consumers including power sector are covered under Fuel Supply Agreement (FSA) with specific terms and conditions relating to quantity, quality, payment etc. the power stations including Independent Producers (IPs) existing as on 31.3.09 have been considered for supply of coal under a Model FSA which was decided between CIL and CEA. Such power stations are being supplied coal against an aggregate Annual Contracted Quantity (ACQ) of 306 million tonnes per annum. The agreement is valid for a period of 20 years at 90% of ACQ for assured level of supply *i.e.* the trigger level for calculation of penalty and incentive.

It was also decided between CIL and CEA that the power stations coming up after 31.3.09 having valid linkage would be offered coal for an ACQ to be at the level of allocation made by CEA out of incremental availability offered by CIL from year to year over and above the FSA quantity for power stations commissioned in the preceding year. The arrangement agreed to between CIL and CEA for the new power stations has not fully materialized so far, as the allocation being made by CEA for new plants is over and above the incremental availability being offered by CIL for 2010-11.

Due to delay in environment and forestry clearances, Resettlement and Rehabilitation issues etc., the coal companies are unable to

achieve the desired production levels and Ministry of Coal is taking up the matter with all the concerned agencies, so that the overall coal production from CIL sources can be increased, to meet indigenous demand, to the extent feasible."

1.17 When the Committee asked the Ministry of Coal to explain, disincentive for supply of coal below 50 percent of ACQ as insisted upon by CIL which would significantly hamper the coal based capacity addition, the Ministry of Coal stated:

"CIL has estimated to produce 486.50 MT of coal in the terminal year of 11th Plan (2011-12) as per Mid-Term-Appraisal of the Planning Commission. Against this availability, the committed demand through Fuel Supply Agreements (FSAs) and Letter of Assurances (LOAs) already issued/being issued based on clearances issued by Standing Linkage Committee (Long Term) works out to 805 MT. Therefore, the net negative coal balance is about 318 MT in the terminal year of 11th Plan.

Keeping this huge gap between the demand and projected production of CIL in view, a decision was taken between CIL and CEA that the incremental availability of coal earmarked for power sector on year to year basis would be indicated to CEA for the purpose of allocation amongst the new power stations coming up during the year and ACQ would be based on allocation of CEA for a power station since the allocation is based on actual availability of coal to be indicated by CIL.

Taking into consideration the availability constraints, CIL took conscious decision to make available only 50% of the normative requirement of any consumer at the maximum including power stations in future and balance requirement to be met through import depending on the acceptance of the consumer for such imported coal supply. The term of the FSA for the new consumer including power station has also been kept for a shorter duration of 5 years to safeguard their legal and commercial interests."

1.18 Enquiring about the generation loss caused to the Power Utilities due to shortage of coal, the Ministry of Power furnished the following data:—

"The generation loss reported by the power utilities due to shortage of coal during the period 2004-05 to 2008-09 is given below:

Year	Generation Loss (Million Units)
2004-05	3588
2005-06	1654
2006-07	0
2007-08	0
2008-09	10924

1.19 In reply to the question raised by the Committee that to what extent Plant Load Factor has been dependent on availability of coal/gas, the Ministry of Power stated:

"The Plant Load Factor (PLF) of a generating unit is the ratio of actual energy generated during a given period of time to the energy that could have been generated if the unit had operated continuously at its maximum rated capacity during the period. The performance of a thermal power station is dependent on many factors like size of the unit, its age and availability (which is in turn dependent on operation and maintenance practices), availability of coal/gas, variation in quality of coal supplied as compared to the quality of coal for which plant has been designed.

The average PLF of thermal power stations of Central Sector Generating Companies as well as Utilities in the Private Sector

during the period 2005-06 to 2009-10 (April to October, 09) is given below:

(Figures in %)

	2005-06	2006-07	2007-08	2008-09	2009-10 (April-Oct.09)*
NTPC	87.4	89.3	90.4	89.9	87.4
DVC	54.2	60.4	62.8	57.2	54.1
NLC	74.5	72.4	79.8	72.3	83.2
CENTRAL	82.1	84.8	86.7	84.3	83.3
Pvt. Utility	85.4	86.3	90.8	91.0	87.1
All India	74.7	76.3	78.6	77.2	75.8

1.20 Asked as to why the contract for supply of coal was made for lesser quantity of coal than required for normative optimal use i.e. 90% PLF of the power plants, the Ministry of Power stated:—

> "For the thermal power stations commissioned by 31st March, 2009, coal requirement was estimated on the basis of actual performance of the power plant during the last three years. However, in view of limited availability of coal, Annual Contracted Quantity (ACQ) for signing the Fuel Supply Agreement (FSA) was less than the requirement of different power plants. For new thermal power plants i.e. plants commissioned after 1st April, 2009, ACQ is yet to be decided. However, the normative requirement of a power plant is estimated on the basis of 90% Plant Load Factor (PLF)."

1.21 When the Committee desired to know the stocking norms for coal of the Power Stations, the Ministry of Power stated in a note:—

> "The Stocking norms for power stations are as under:
>
> Pit-head Power Stations: 15 days
>
> Stations located up to 500 km from Coal Mine: 20 days

Stations located from 500 to 1000 km from coal mine: 25 days

Stations located beyond 1000 km from coal mine: 30 days"

1.22 The Committee were also informed that the Power Stations with less than 7 days of coal stocks falls under the 'Critical Category' and Power Stations with less than 4 days of coal stocks are said to be in 'Super Critical' category When asked by the Committee regarding the names of critical/super critical thermal power stations, the Ministry provided the following information:—

"The names of critical/super critical thermal power stations as on 13.05.2010 are given as under:

Category	State	Power Station
Critical	Rajasthan	Suratgarh TPS,
	Gujarat	Gandhinagar TPS, Ukai TPS, Wanakori TP
	Madhya Pradesh	Sanjy Gandhi TPS
	Maharashtra	Nasik TPS, Parli TPS
	Andhra Pradesh	Dr. N.Tata Rao TPS, Rayalaseema TPS
	Bihar	Muzaffarpur TPS
	Orissa	Talcher STPS
	West Bengal	Bakreshwar TPS, Kolaghat TPS, Santaldih TPS
Super Critical	Rajasthan	Kota TPS, Chabra TPS
	Chhattisgarh	Bhilai TPS
	Gujarat	Torrent Power AEC
	Maharashtra	Dahanu TPS
	Tamil Nadu	Ennore TPS, Mettur TPS
	West Bengal	Kahalgaon TPS, Mejia TPS, Sagardighi TPS

1.23 The Committee asked about the steps taken to augment the production and supply of coal, particularly when there is a lot of demand for coal in the power sector which is in process of massive capacity addition of 1 lakh MW in 12th Five Year Plan. In reply to that the Ministry of Coal stated:

"Coal India Limited has taken following steps to augment coal production to meet demand of power plants in the country:

(a) As per Working Group of Coal & lignite for formulation of XI Plan, projected production of coal at the terminal year of XII Plan (2016-17) is 664.00 MT from CIL sources. However, as per present estimates it is envisaged that CIL may achieve a production level to the tune of 647.50 MT. Due to delay in forestry clearances, problems of land acquisition & other R&R problems, some of the major projects may not achieve their target and hence there will be a shortage.

(b) CIL has identified 142 new projects for XI Plan period with a capacity of 380.22 MT. Out of these new projects, 76 projects have been approved and will contribute about 110.95 MT during 2011-12.

(c) In addition CIL has taken following steps to enhance its production:

- Opening of new mines.
- Technology upgradation
- Joint Venture/strategic alliance in coal mining and allied areas.
- Rapid mechanization of underground mines.
- Supplementing indigenous production from mines abroad."

1.24 In regard the steps being taken by the Ministry of Coal to ensure adequate and timely supply of coal to the thermal power stations in the country, the Committee were informed that:—

> "The estimated requirement of coal for Power Utilities for 2009-10 is projected by CEA at 404 MT, which included 14 MT of coal for stock building. As per the projected requirement, a supply plan has already been formulated by CEA wherein the gap of 41 MT between projected requirement and indigenous availability, is earmarked by CEA to be met through import of 28.7 MT by Power Plants. In order to ensure adequate and timely supply of coal from indigenous sources, the Government in its New Coal Distribution Policy (NCDP) has provided for supply of coal to power stations through legally enforceable Fuel Supply Agreement (FSA), wherein supplies are scheduled beforehand. Moreover, supplies beyond 90% of Annual Contracted Quantity (ACQ) are to be incentivized in slabs from 90% to 95%, 95% to 100% and beyond 100%. Similarly, equal penalties are to be imposed for supplies below 90% in slabs from 90% to 85% to 80% and below 80%. Thus, the system in place itself ensures adequate and timely supply of coal to thermal power stations in the country from indigenous sources."

1.25 When asked by the Committee about the steps taken by the Ministry of Coal to ensure that coal of good quality is produced and supplied to the Utility Users, the Ministry of Coal stated:—

> "Due to the geological nature of the deposit, ash content in Indian Coal is more and 70% of non-coking coal produced by CIL is of grades E and above with high ash content. Indian Power Utilities are accustomed to use high ash coal. Notwithstanding the above, CIL has been taking following measures for bringing improvement in quality.
>
> A. In order to ensure improvement in quality the following steps have been taken by CIL:
>
> (i) Selective mining of bands of >1 meter thickness.
>
> (ii) Appropriate positioning of OB and coal benches to avoid contamination.

(iii) Scrapping/cleaning of coal benches before blasting.

(iv) Installation of metal detectors/ magnetic separators over running conveyors before loading coal.

(v) Having high capacity coal handling plants to dispatch sized and uniform quality of coal at all major projects to suit the requirement of the consumers.

(vi) Establishment of well equipped laboratories at all the projects for regular quality assessment.

(vii) Shale-picking, at mine face, stocks & loading points/ sidings to address the issue of consistent quality.

B. In order to overcome the oversize problem, total 211 Coal Handling Plants (CHPs) and Feeder Breakers having a total capacity of 257.59 MTY are operating in different subsidiary companies. In addition, 29 Feeder Breakers and 3 Mobile Crushers are in the process of being installed in different subsidiary companies with a view to ensuring supply of 100% crushed coal. Moreover, the Surface Miners deployed at CCL, SECL & MCL produces about 53.5 MTY sized coal.

C. CIL has decided that Auto Mechanical Samplers (AMS) would be installed at all silo loading points within 24 months of signing of FSA with Power Sector consumers.

D. As per CIL's policy for quality assurance, joint sampling facility is extended to large consumers having annual requirement of 0.4 million tonnes and above. Payment of coal value in such cases is based on quality determined through joint sampling and analysis. This arrangement has been operating to the satisfaction of large consumers which is reflected in insignificant deduction of coal value on account of quality, which during 2007-08 turned out to be a negative deduction i.e. a marginal bonus of Rs. 2.58 per tonne based on overall CIL performance.

E. As a long term strategy, CIL has decided that all coal specially from the open cast mines will be washed before supply to consumers located away from pit head. Washeries for this purpose are being developed by CIL at various subsidiary companies on "Built Operate and Maintain (BOM)" basis. Already 19 washeries having a total capacity of about 100 MTY have been planned in different subsidiary companies."

1.26 Indigenous coal requirement for the year 2010-11 is 444 million tonne and for the year 2011-12 is 507 million tonne. When the Committee desired to know as to how this demand of coal is going to be met, the Ministry of Coal stated:—

"As per mid-term review carried out by the Planning Commission, the total demand of coal in the country is 713.24 MT in the terminal year of XI Plan i.e. 2011-12, whereas the indigenous availability of coal in the country is envisaged at 591.78 MT. Out of total indigenous availability, the projected contribution of CIL would be 486.50 MT in 2011-12. Therefore, the gap between demand and indigenous availability is estimated at 121.46 MT during 2011-12. The projected gap between demand and indigenous availability has to be met through import of coal.

CIL has identified 142 new projects (ultimate capacity 380.22 MT) during XI Plan Period. Out of 142 identified projects, 76 projects have been approved so far, and the expected contribution from these new projects will be 110.95 MT in the terminal year of XI Plan (2011-12).

In addition, Coal India Limited has reported that the following major steps are also being taken to enhance coal production:—

(i) Refocus on Underground mining

Coal India proposes to harness high mass production technology in underground mining for tapping large reserves below 300 meter depth including reopening of abandoned mines to achieve increased levels of production in the

forthcoming year of the plan period and beyond. Seven underground coalmines/blocks have been identified for development, construction and operation at high capacity. 18 abandoned/derelict undergrounds mines with estimated reserves over 1600 Mt, not been worked for reasons of safety and economy, have been identified for salvaging, rehabilitation and operation.

(ii) Upgradation of Heavy Earth Moving Machine (HEMM) in Opencast Mines

(a) Upgradation of equipment size matching with bench height and stripping ratio are being introduced. For Dumper, up gradation from 35/50 T to 60T, 85T to 100T, 120 T to 150T as well higher sizes are being introduced. Similar action has been taken for standardization of other HEMM.

(b) Action has also been initiated for replacement of old equipment with higher size equipment.

(c) High capacity hydraulic shovels 10 to 25 CuM and dozers of sizes upto 850 HP are being planned to be introduced."

(II) Development of Coal Blocks

1.27 As per the information available on the website of the Ministry of Coal, 93 nos. of captive coal blocks were allotted to CPSUs, State Utilities, UMPPs and private developers etc. for the power sector as per details given below:—

UTILITY	No. of coal blocks allotted
1	2
CPSUs	13
State Utilities	42

1	2
UMPPs	10
Private developers	28
Total	93

1.28 When the Committee asked as to why the development of coal blocks is not being expedited, the Ministry enumerated the following issues that are impeding the pace of developing the coal blocks:—

- "Forest clearance for exploration.
- Most of the captive coal blocks are unexplored and need forest clearance before commencement of exploration.
- Environment and forest clearance for the coal mine.
- Delay in granting prospecting license.
- Blocks allotted to more than one party.
- Problems in land acquisition."
- Problems in evaluation of coal from coal blocks(s) due to delay in commissioning of Railway networks.

1.29 The Committee further enquired as to why coal blocks allocated are not being developed and what measures have been taken to develop them as per schedule. The Ministry of Coal stated:—

> "Development of coal blocks involves a gestation period of 3 to 7 years for reaching the production stage and another two to three years for reaching the optimal production capacity. As per the guidelines, coal production from a captive coal block should commence within 36 months (42 months in case the area falls in forest land) in case of open cast mines and in 48 months (54 months in case the area falls in forest land) in case of underground mine, from the date of allocation. If the coal block is not explored,

additional two years are allowed for detailed exploration and three months for preparation of geological report. The allocatees of coal blocks, who have not started production so far, are in various stages of obtaining statutory clearances and mining lease, preparing mining plan, acquisition of land, procuring machinery and equipment etc. for both mining as well as end-use project.

So far 208 coal blocks have been allocated with an approximate geological reserve of 48.82 billion tonnes, upto November, 2009 and majority of the coal blocks were allotted after 2005.

So far, production has commenced in 25 coal blocks and the production from these coal blocks for the year 2008-09 was 30.02 million tonnes as reported by the Coal Controller's Office.

The responsibility of developing the coal block as per the prescribed guidelines and milestone chart attached with the allocation letter rests entirely with the allocattee company. In the terms and conditions of the allocation letters, it is categorically mentioned that in the event of willful delay in the development of coal blocks and in setting up of the end use project, the Govt. shall take appropriate action to de-allocate the said block. Government, in line with this, periodically monitors and reviews the development by the allocattee companies in the Review Meetings. Wherever delays are noticed, Government issues show cause notices and advisories to such allocattees cautioning them to bring the coal blocks into production as per the guidelines/milestones chart. Similarly, the Coal Controller's office is also monitoring on regular basis the achievement of different milestones. Further, the allocatees have to submit Bank Guarantee which remains valid all the times till the production from the coal block reaches its peak rated capacity. The last review meeting was held on 22nd and 23rd June, 2009 with all the coal block allocattees to review the development of coal blocks and the end use projects.

The State Governments have also been requested to form a Monitoring Committee headed by the Chief Secretary to facilitate

expeditious development of coal/lignite blocks. So far, seven coal blocks have been de-allocated after following due process. The details are given below:

Name of the company	Block allocated	Date of allocation	End-use	Date of de-allocation
Kalinga Power Corporation Ltd.	Utkal-A	10.08.1993	Power	02.07.03
Talcher Mining Pvt. Ltd.	Utkal-B1	02.02.1996	Power	01.08.03
Lloyds Metal & Engineers Ltd.	Takli-Jena-Bellora (North)	29.05.1998	Sponge Iron	23.06.03
Garuda Clays Ltd.	West of Umaria	24.05.2004	Cement	Sept.,'06
Shree Radhe Industries Ltd.	Panchbahani	06.09.2005	Sponge Iron	Sept.,'06
Gujarat Mineral Development Corp.	Jainagar	02.08.2006	Power	2008
Damodar Valley Corporation	Kasta(East)	03.03.2005	Power	May, 2009

Mining Lease of one coal block, namely, Talki Jena Bellora (South) allocated to M/s Central Collieres Pvt. Ltd. was declared void after it was found that there was a violation of captive use clause."

1.30 On being asked by the Committee about measures proposed to ensure that the captive coal blocks allotted to power PSUs are developed within the stipulated time, the Ministry of Power informed that:—

"Out of 88 captive blocks allotted for power generation 13 coal blocks have been allotted to CPSUs and 38 coal blocks to State

utilities. 10 coal block allotted to state utilities are already under operation. In respect of 6 captive coal blocks allocated to CPSUs and 5 Coal blocks allocated to state utilities mining plans have been approved and PSUs are in the process of obtaining environment and forest clearance, land acquisition etc. Many coal blocks have been jointly allocated to more than one PSU.

There is a need to coordinate transportation of coal from the captive coal mines to their destination. A master rail network needs to be developed for evacuation of coal from these mines in addition to the rail network being planned for transporting of coal from these mines in addition to the rail network being planned for transporting of coal from mines of Coal India Ltd. so as to optimize the resources.

The issues of constraints in coal availability for Thermal Power Generation including development of captive coal blocks were discussed in the meeting of the Fuel Infrastructure Committee held on 30.9.09 under the Chairmanship of Member (Energy), Planning Commission. In this meeting it was decided that a Committee under the Chairmanship of Secretary (Coal) with representatives from CEA, MoP, CIL and Planning Commission may *inter-alia* look into the issue of time bound exploitation of allotted captive blocks.

DVC requested Ministry of Coal to allocate the adjacent coal blocks viz. Kasta (West) and Kasta (Central) to enable DVC to move forward for development and operation of the integrated coal mining projects covering all three segmented blocks. But despite vigorous follow up at different levels no positive response in this regard could be received and finding no viable solution to the issue DVC vide letter No. Dir.(Opn.)/PS/18/186 dated 15.09.2008 to MoC surrendered the Kasta (East) coal block."

1.31 When asked for the views of Ministry of Coal on the issue of surrendering of Kasta (East) Coal Block by the Damodar Valley Corporation, the Committee were informed that:—

"M/s Damodar Valley Corporation (DVC) was allocated Barjora North, Khagra-Joydev and Kasta (East) coal blocks under the

command area of Eastern Coalfields Ltd. for captive mining for Mejia Extn. TPS unit 4 (1x210 MW) and units 5 & 6 (2x250 MW) and Durgapur Steel TPS (2x500 MW) for 3-4 mtpa and 6 mtpa respectively. The allocation was made on 3rd March, 2005 subject to certain conditions. However, since the allocattee company had not made any progress to develop the Kasta (East) coal block as per the milestone chart for development of coal block and on the request of M/s DVC showing its willingness to surrender the said coal block, the Government decided to de-allocate the Kasta (East) coal block on 11th February, 2009 allocated in favour of M/s DVC."

1.32 The Committee wanted to know as to why the request of allotment of the Kasta (West & Central) to DVC for making the whole Kasta Project economical viable as acclaimed, was not acceded to, the Ministry of Coal stated:—

"The reasons for not acceding to the request of the DVC is primarily that the other two blocks are not identified and not in the list of blocks for allocation. Further, the coal blocks are identified after following due process and it is for the applicants to evaluate whether it is viable for them or not before applying for the same. In view of the above factual position, it cannot be said that non-viable block was offered to DVC in the first instance.

M/s DVC in all its earlier representations including the application for allotment of these three coal blocks, never stated that Kasta (East) was a fragment out of contiguous block comprising Kasta (West) and Kasta (Central) and hence Kasta (East) is not singly techno-economically viable project. It was only after the Ministry issued the show cause notice to explain the delay in developing the block, M/s DVC brought this issue of developing the three patches of Kasta (East), Kasta (West) and Kasta (Central) and surrendered Kasta (East) coal block. Ministry of Coal allocated the coal blocks on the specific request of M/s DVC and de-allocated Kasta (East) coal block only after receiving the willingness for surrendering the said block. The de-allocation, therefore, was after following due procedure."

1.33 In reply of a specific query of the Committee regarding the time frame for development of 97 coal blocks allocated to power sector, it has been informed by the Ministry of Power that:—

> "6 coal blocks which were allocated in 2003 or before have been developed. In respect of 23 coal blocks mining plan has been approved and the developers are in the process of obtaining environment & forest clearance, mining lease and land acquisition.
>
> Most of the blocks to private sector were allocated in November, 2007/January, 2008. It takes about 4.5 to 5 years for development of coal blocks. In some cases development of coal block has taken even 8 to 9 years. Early development of coal block will depend upon timely accord of prospective license and Environment and Forest Clearances.
>
> In the Fuel Infrastructure Committee meeting held under the Chairmanship of Member (Energy), Planning Commission, it was decided that a Committee under the Chairmanship of Secretary (Coal) with representative from CEA, MoP, CIL and Planning Commission may inter-alia look into the issue of time bound exploitation of allotted captive coal blocks. This Committee could ensure early clearances of the coal blocks."

(III) Environmental Clearances to Coal Projects

1.34 The representatives of the Ministry of Power and Ministry of Coal during the course of evidence on the subject submitted before the Committee that the captive coal blocks allotted to the Ministry of Power and coal projects of Coal India Ltd. had not made much progress as a result of inordinate delay in obtaining environment and forest clearances. In a reply to a starred question (Lok Sabha) number 187 dated 10/03/2010, on modernization of Coal Ministry operations, the Minister of Coal informed the Lok Sabha that 89 coal projects were awaiting environmental clearances which was adversely affecting the coal production.

1.35 During the course of evidence, the Committee enquired from the Secretary, Ministry of Power whether any coordination exists between

various Ministries *i.e.* Coal, Petroleum, Environment and Power for discussing and obtaining various statutory clearances including environmental and forest clearances. He informed the Committee that out of 88 coal blocks allotted by the Ministry of Coal for power sector only 15 coal blocks are in various stages of development. He further informed that despite regular meeting with the Ministry of Environment and Forests at senior level, it takes a minimum of two and half to three years to get any clearance from the Ministry of Environment.

1.36 Accordingly, the Committee decided to take up the matter with the Ministry of Environment and Forests. In a written reply the Ministry of Environment and Forests stated as under:—

> "The environmental clearance process prescribed under the EIA Notification, 2006 has introduced a 3 — stage process of (1) Scoping and grant of Terms of Reference (TOR) for preparation of Environmental Impact Assessment (EIA) Study-Environmental Management Plan (EMP) thereon, (2) conduct of Public Hearing and (3) preparation of an-environmental Impact Assessment (EIA) Report-Environmental Management Plan(EMP) for the project. The Ministry of Environment and Forests (MIF) is the Impact Assessment Authority in the Central Government for grant of environmental clearances for Category `A' Projects — which includes Coal Mining Projects above 150 ha lease area. The powers of the Central Government have been delegated to State level Impact Assessment Authorities(SEIAAs) constituted by the MOEF for projects below a certain capacity (below 1 million tones per annum) and lease area (150 ha or less and more than 5 ha), which were categorized as Category B Projects.
>
> The process of appraisal of the projects and recommendation of grant of TOR and EC is undertaken by an Expert Appraisal Committee (EAC) constituted *vide* the provisions of the EIA Notification 2006 at the Central level and State level Expert Appraisal Committees (SEACs) have been constituted under the SEIAAs to appraise the Category 'B' projects. The MOEF has

constituted the EAC, which meets twice a month to appraise thermal and coal sector projects. IT has included experts from coal sector, mining engineering in addition to ecology, hydrology, wildlife, R&R, etc. Advisor (Projects) from Ministry of Coal is also a special invitee when the Committee discusses issues relating to policy on coal sector, issues regarding the EIA Notification 2006, linkages, etc. The MOEF has also prepared a generic Model TOR for Coal Mining as well as Coal Washery projects to serve as a guideline in preparation of projects for EC. The powers of the Central Government have been further delegated *vide* an amendment to EIA Notification 2006 dated 01.12.2009. It is also informed that under the EIA Notification, grant of *ex-post facto* environmental clearances is not permitted *vide* Order of the Hon'ble Supreme Court in W.P. No. 460/2004 (Goa Foundation Vs UOI & Ors.) and units are required to obtain prior EC for establishment of new and expansion of existing projects. Further, the Hon'ble Supreme Court has also passed a judgment dated 18.3.2004 under WP 4677/1985 –M.C. Mehta *versus* UOI & Ors. that all mining projects at the time of renewal of lease must obtain prior EC.

Of the coal projects received for EC, a number of projects were also granted EC under Section 7.2 of the EIA Notification, 2006 involving only increase in production in existing projects with prior EC. A time-limit of 105 days has been prescribed in the EIA Notification 2006 for grant of EC. The time taken for appraisal for the proposals and grant of TOR and EC has been fairly quick over the past few years. Thus, the MOEF has made concerted efforts in following the time-frame stipulated in the EIA Notification 2006 in grant of TOR and EC. It is submitted that the time taken by the project proponents in submission of applications for TOR and EC or response to clarifications sought by the Ministry or the EAC is not taken into account in delay of consideration of projects and grant of TOR/EC."

1.37 As the Ministry of Power and the Ministry of Coal have been indicating the delay in getting environment clearances the reason for delay in development of coal blocks, the Committee desired to know the view of MOEF in this regard. In response to that the Ministry stated as under:—

"The MOEF is of the view that the main causes for delay include the following:

Submission of proposals for TOR/EC without completion of exploration of the coal blocks. Coal Project Proposals are being received without proper exploration of the Coal Blocks to ascertain the extent of mineable reserves. The Ministry of Coal is often allocating coal blocks without completion of exploration. Further, it is also approving Mining Plans for such blocks with partial/ incomplete exploration. As a result, the project proponents are submitting proposals for environmental clearance for such coal blocks for which Environmental Impact Assessment (EIA) Reports are prepared even without knowledge of the status of coal reserves to be mined. Since the impacts cannot be assessed unless mining of the coal blocks is understood, this is a very major lacuna in the EC process. The time taken by the individual project proponents to complete the process of exploration, preparation and finalization of the Mining Plan for the coal block is also included as 'delay' in the EC process, which comes only after this step. The Ministry of Coal has been requested to only allot such blocks where the coal reserves are ascertained or the project proponents should not apply for EC until the MOC/individual project proponents have completed this process.

A number of coal blocks are being allocated in new virgin areas of coalfields with a large number of reserve / protected forests. These include the North and South Karanpura Coalfields in Jharkhand, the Hasedo Arand Coalfields in Chhattisgarh, Talcher coalfields in Orissa, and forests of Singrauli, Sidhi and Chhindwara districts in M.P. etc. In many cases the density is higher than 0.4. In addition, it is supporting Teak, 'Sal', etc such forests also support a number of rare and medicinal plant species. There are large

number of endangered (Schedule-I and II) fauna such as the royal Bengal Tiger, the Asiatic Elephant, Sloth Bear, Leopard, Wolf, etc. and their prey species such as the Sambar Deer, Spotted Deer, etc. which form an integral part of the ecosystem and wildlife habitat. The endangered species required very vast areas as their normal habitat. In addition to such forests, which form their habitats, some of these species also require what is termed as 'corridors' — Elephant and Tiger Corridors habitats which link Tiger Reserve/ Elephant Reserve/Wildlife Sanctuary/National Park through such forests and require to be protected.

The MOEF is in the process of identifying 'Go and No-Go' areas in all the major coalfields in the country where blocks are being allocated by overlaying (superimposing) forest map on coal atlas map. Areas with dense forests rich in flora and fauna require to be declared as 'No-Go' areas. Coal Blocks, which have been allocated by MOC in such areas, cannot be permitted mining. However, the Ministry of Coal has allocated Coal Blocks without prior consultation with the MOEF in such areas, which is leading to increase man-animal conflict as these species venture out to villages, when their habitats are destroyed or get fragmented. The MOC has been requested not to allocate new coal blocks in coalfields rich in biodiversity, rich in highly-moderately dense forests, presence of endangered fauna declared as 'No-Go Areas'…

…In addition, the EIA Notification 2006 provides that coal projects which have obtained prior EC along with conduct of a Public Hearing, could be granted prior EC with due diligence and could also be exempted from conduct of Public Hearing. A number of coal projects have been granted EC *vide* this provision. However, it is submitted that this proviso requires to be used very diligently and cannot be used for increasing production often without prior EC. The Ministry of Coal/Coal India Ltd. have been often requested to prepare their projects based on the highest achievable production capacity (which is technically possible considering the reserves found in the Block, the equipment to be deployed, the manpower etc.) and to have a public Hearing conducted for such a project and obtain prior EC. However, very often, it is found that this is not

the case. Proposals are prepared in haste in order to achieve 'annual targets' set by MOC which often leads the individual coal companies of Coal India Ltd. to increase production immediately thereafter without prior EC. The efforts of preparing long-term perspective plans based on the highest achievable production capacity are often ignored by these companies. If this was done, any sudden increase to met 'targets' could be within the highest achievable production capacity. In fact, this matter was agreed to by MOC in 2008, in a meeting of Secretary Coal and Secretary (E&F) with CMDs of Coal India Ltd, and CMDs of its subsidiary coal companies. Since these companies are PSUs and 'energy security' is an important issue, it is causing severe problems to the MOEF in compliance of environmental regulations. The MOC should impress upon the Coal India Ltd., and its companies to prepare long-term perspective plans and to ensure compliance of environmental regulations.

The MOC has been further requested to enhance the capacity of CMPDI and technical wing of the coal companies to properly address the environmental issues at one go to further reduce the time taken in grant of EC.

Monitoring of compliance of Environmental clearance conditions is carried out by the Ministry's six Regional Offices at Bangalore, Bhopal, Bhubaneshwar, Lucknow, Shillong and Chandigarh. Monitoring Reports indicate that there is a high level of non-compliance of conditions imposed in the EC.

The MOC and Coal India Ltd. often cite 'delay' in the EC process as a reason for shortfalls in production. However, this is not so as there are very few proposals presently with the MOEF 'pending' for EC except for reasons cited at (i) and (ii) above. The number of applications received for TOR and EC during April-December 2009 was 49 and 55 respectively and during the same period of April-December 2009, the MOEF granted TOR to 48 coal mining projects and EC to 43 Projects. Every effort is taken to adhere to the time stipulated for preparation of the minutes of the meetings

of the Expert Appraisal Committees for Coal Sector Projects. It is informed that the delay in implementation of coal projects is not due to any delays in the EC process as per a Note prepared by the MOC recently for the Cabinet Committee on Infrastructure which clearly indicates that 'the main reasons for slippage in the implementation of projects are a) delay in acquisition of land, (b) delay due to adverse geo-mining conditions, (c) delay due to fire and (d) delay due to law and order problems. Thus, the MOC has admitted that these are the major causes for the projects for the slippages. It is further submitted that the Coal India Ltd and its subsidiary companies are continuing to function under a separate regulation called the Coal Bearing Areas (Development and Acquisition) Act, 1957, as per which these companies are enjoying a number of concessions and protection denied to other PSUs and private companies, whereby land once acquired is not given up and remains with the coal companies 'in perpetuity' even after completion of mining. The CIL companies need to hasten up with the process of reforms particularly relating to land acquisition and also address issues such as surrender of land acquired which continue to be in their possession after coal mining has been completed, reclamation of mined areas, reclamation of old abandoned mines in the possession of the coal companies, would further held the companies in further ensuring sustainable development. It is expedient upon the CIL companies to make them into an efficient organization at par with other companies in terms of efficiency, output, compliance of regulations etc. In addition, a Coal Regulatory Authority is required to regulate the functioning of the Coal Sector and in particular the Coal India Ltd. and its subsidiary companies."

1.38 On being asked by the Committee about the coordination mechanism between the MOEF and the Ministry of Coal, the MOEF stated:—

"It is informed that there is a regular ongoing dialogue between MOEF and MOC at the highest level (Minister/Secretary) to discuss issues to further improve any bottlenecks that may further expedite

the EC process. The MOEF has also issued a number of Circulars regarding the various issues relating to EIA Notification 2006. As a result of these interactive meetings, all coalmining projects are exempt from EC process for prospecting and exploration. The MOEF has also prepared a `Model Terms of Reference' to serve as a guideline on which EIA-EMP Reports could be prepared. The MOEF has also issued `Instructions' for presentations to be made by the project authorities for TOR and EC before the Expert Appraisal Committee with a view to reducing time taken in appraisal. The Ministry is in the process of bringing out EIA Manuals for various Sectors requiring EC. As on date, draft Final EIA Manuals have been prepared for 15 sectors (including Thermal and Mining) and Model TORs have been prepared for 21 sectors including Thermal, Coal Mining and Coal Washery."

(IV) Acquisition of Coal Mines Abroad

1.39 When the Committee asked that what efforts are being made to acquire coal blocks in major coal producing countries like Africa, Asia, Indonesia, etc. and whether there is any need for creating a separate corporation exclusively for the purpose of import of coal and acquisition of coal blocks outside the country and raising of funds, either through public, Government assistance or budgetary support, for the same, the Ministry of Power stated:—

"The following efforts are being made to acquire coal blocks outside the country for sourcing coal on long term basis:

International Coal Ventures Pvt Ltd. (ICVL), a JV amongst SAIL, CIL, NTPC, RINL and NMDC has been set up for securing metallurgical coal and thermal coal assets from overseas. ICVL is currently pursuing coal opportunities in Australia, Indonesia and South Africa. Due diligence of the above coal opportunities are underway.

NTPC is also currently exploring the possibility of acquiring stakes in certain mines in Indonesia South Africa and Mozambique. Due diligence for some coal mines is underway.

The power utilities have been importing coal through public sector organizations like, MMTC, STC, etc., as well as private sector. In addition, Coal India Limited is also envisaging import of coal for the Power Utilities."

1.40 When the Committee asked the Ministry of Coal regarding the efforts to acquire coal resources abroad, it was informed that:—

"Coal India Limited plans to acquire coal resources abroad through Equity Stakes in working or green field projects. CIL has floated global Expression of Interest (EOI) for selection of strategic partners for overseas operations. A Panel of Investment Bankers has been formed to scout for acquisition opportunities abroad and assist in due diligence/transaction. CIL also holds 28.57% equity in the Special Purpose Vehicle (SPV) "International Coal Ventures Limited" formed in Joint Venture with a consortium of Public Sector Undertakings — Steel Authority of India Limited, Rashtriya Ispat Nigam Limited, National Mineral Development Corporation and National Thermal Power Corporation."

(V) Import of Coal

1.41 When the Committee desired to know about the pricing of the imported coal and how will it affects the cost of power, the Ministry of Coal stated:—

"Currently, the average price of imported coal having a heating value of more than 6000 Kcal/Kg at Indian ports is around Rs. 4000 per tonne.

Generation tariff is determined by the appropriate Electricity Regulatory Commission and the cost of fuel is a pass through. Thus change in the cost of coal affects the cost of power."

1.42 CIL were planning to directly import 4 MT during 2009-10 and they may increase their imports to a higher level by 2011-12, as per requirements to be worked out. When the Committee desired to know about the progress in this regard, the Ministry of Coal stated:—

"So far as CIL is concerned, a target of 4 million tonnes of coal was given to CIL for import of coal for Power Utilities during 2009-10.

As decided by CIL, such import was to be made subject to receiving firm commitment from the Power Utilities. In the absence of any firm commitment from the Power Utilities, import by CIL did not materialize during 2009-10.

CIL is now in the process of exploring and firming up Port and other logistics required for import of coal. At the same time, CIL is also in the process of ascertaining firm demand for import of coal from the power sector during 2010-11 so as to finalize the process of import.

CIL is in the process of firming up the modalities and related infrastructure for import of coal and no major hurdle is being visualized at this stage."

In reply to a separate query of the Committee, it was further informed by the Ministry of Coal that the Power Utilities themselves have to make their own arrangements for import of coal against the target fixed by the Ministry of Power. During 2009-10, as against the target of 28.70 million tonnes fixed by the Ministry of Power, the power utilities had imported only 23.2 million tonnes.

1.43 The Committee desired to know that why the shortfall has not been compensated by power utilities by importing coal themselves. In reply the Ministry of Power stated:—

"Power Utilities are being advised to import coal keeping in view the requirement of coal for meeting the generation target and the likely availability of coal from the domestic sources. The modalities and mechanisms for import coal are decided by the power utilities. CIL also has the authority to import coal. However, due to boiler design considerations, the indigenous coal based power stations are not able to take more than 15% blending with imported coal. Out of 452 Million Tonne, the requirement of coal for imported coal based power stations (12 MT) is being addressed by these stations. For bridging the shortfall of 52 Million Tonne (440 MT – 388MT) in respect of power stations designed on domestic coal, the utilities have been assigned target of 35 Million Tonne."

1.44 When the Committee asked the Ministry of Power that why not put a stop on implementing coal based plants with 10% or 15% blending of imported coal and put up only imported coal based plants, the Committee was informed:—

> "During the 11th Plan, projects totaling to 7,165 MW are planned based on imported coal, out of the total coal based capacity of 41,640 MW. Similarly, during the 12th Plan, projects totaling to 10,200 MW are planned based on imported coal, out of the total coal based capacity of 85,000 MW. However, it is not considered prudent to plan capacity only based on imported coal in view of high price and price volatility in the international market of imported coal and energy security concerns. Therefore, capacity based on indigenous coal is also being planned to mitigate the electricity shortages in the country. However, keeping in view the technical limitations of blending imported coal, Power Utilities are, in general, not being advised to blend beyond 15%."

(VI) Transportation of Coal

1.45 Lack of timely transportation of coal has been the persistent problem, forcing the power stations to run below their optimal capacity. The Committee desired to know that what steps have been taken/being taken to ensure that adequate rail rakes are available to transport the coal in time. The Committee also desired to know that whether the present coordination with the Ministry of Railways in this regard is satisfactory or there is need for review. Responding to this issue the Ministry of Power stated:—

> "Coal stock at the power stations is monitored on weekly basis by Ministry of Coal through an Inter-Ministerial Group as already mentioned earlier. The issue of availability of adequate railway rakes for transportation of coal to power stations is also reviewed in the meetings at various forums including the Sub-Group, inter-ministerial meetings, Infrastructure Constraints Review Group and Fuel Infrastructure Committee for taking appropriate steps.

The present coordination mechanism with the Ministry of Railways is satisfactory.

Subsidiary-wise coal distribution in respect of power stations needs to be reviewed by Coal India Ltd. in consultation with Ministry of Railways, Ministry of Coal, Ministry of Power/CEA, keeping in view the constraints in the existing rail transportation infrastructure for transportation of desired type of railway rakes commensurate with the coal unloading facilities available at the power stations.

In view of substantial coal based capacity addition during the 11th and 12th Plan, construction of Dedicated Freight Corridors by the Ministry of Railways needs to be expedited to cope up with the increasing requirement of power sector."

1.46 In reply of a query of the Committee regarding the level of co-ordination in the Ministry of Coal and the Ministry of Railways for timely transportation of coal to power station, the ministry of Coal stated:—

"A System of close co-ordination with Railways exists both at Coal Companies as well as in the Ministry. While Coal Companies maintain at different levels of the operating Zonal Railways from Area to Division to Headquarters of Zonal Railways, co-ordination with Railway Board is essentially maintained by CIL and also by Subsidiary Coal Companies as per requirement. A monthly co-ordination meeting is organized by the Kolkata Office of Railway Board with Coal Companies. This apart, the Sub-group of the infrastructure Review Committee working at Ministry of Coal regularly Reviews coal movement logistics for utilities, wherein Railways is one of the most important participants along with Central Electricity Authority. Representative of Railway Board is also a member of the Committee of Group of Officers for review of Infrastructure constraints at Cabinet Secretariat."

1.47 When the Committee asked the Ministry of Power that what kind of co-ordination mechanism between Ministry of Power and

Ministry of Coal is there to ensure uninterrupted supply of coal, it was stated:—

> "The important issues relating to supply of coal are taken up in the meetings in which Ministry of Power, Ministry of Coal and other stakeholders are also present. A Secretary level Coordination Committee between Ministry of Power and Ministry of Coal reviews issues related to supply of coal for power sector. The inter-ministerial coordination issues in respect of coal availability/ supply for power sector, transportation and unloading, etc., are reviewed for possible remedies in the Infrastructure Constraints Review Meetings taken by Secretary (Coordination), Cabinet Secretariat and Fuel Infrastructure Committee headed by Member (Power), Planning Commission.
>
> Coal stock at the power stations is also being monitored on weekly basis by an Inter-ministerial Sub-group under the aegis of Ministry of Coal comprising representatives of Ministry of Power, Ministry of Railways and Central Electricity Authority, Coal India Limited. The Sub-Group reviews and resolves the problems in coal supply to the Thermal Power Stations having coal stock less than 7 days."

1.48 The Ministry of Power apprised the Committee that approximately 60 MT coal stock is laying at mine heads. When the Committee asked the Ministry of Coal for not supplying this coal to power utilities as CIL is lagging behind their target in respect of supply of coal to Power Sector, the Ministry of Coal stated:—

> "Coal India Limited (CIL) has reported that in order to supply 335 MT of coal to power utilities during 2010-11, they have planned for incremental off-take to the tune of 44 MT. In order to achieve this incremental off-take the rail dispatch has been projected at 185 rakes per day against average loading of 156 rakes per day achieved in 2009-10. The additional requirement of railway rakes, therefore works out to 29 rakes per day. Thus, the availability of railway rakes requires growth by about 19% to achieve the planned

level of off-take against actual growth of less than 1% in 2009-10. The best growth achieved by Railways during the last ten years had been 6.6% in 2006-07.

While CIL will be putting its best effort for liquidating pithead stock, considering the available logistics, this should not be taken into account for preparation of supply plan for power utilities. Liquidation of stock over and above dispatch as per off-take plan, if any, would be possible only through alternative modes of transport, predominantly through road. Most of the power stations are not in a position to get their coal supply through road. In view of the above, pithead stock should not be taken into account for preparation of the coal supply plan for the power stations."

1.49 The Committee pointed that in view of theft of coal en-route, the concerned Ministries *i.e.* the Ministry of Home, the Ministry of Coal, and the Ministry of Power need to be synergized to ensure that the coal reaches the power plants. Asked about the measures that have been taken to prevent shortage coal en-route, the Ministry of Power stated:—

"The measures taken by the Government for curbing theft of coal are given below:

Mejia Thermal Power Station (MTPS) (1340 MW) in Bankura, West Bengal of Damodar Valley Corporation has been facing theft/ pilferage of coal meant for the thermal power units. The matter was taken up by DVC with the West Bengal Police Directorate in September, 2009. Subsequently, in November, 2009, DVC requested Director General, CISF, Ministry of Home Affair, Government of India to increase the deployment from existing strength of CISF at Mejia from 250 to 335 as per the resurvey. The matter was also brought to the notice of Chief Secretary, Government of West Bengal by Secretary (Power), in January, 2010. Subsequently, Ministry of Power, *vide* D.O. dated 10th February, 2010 also requested Ministry of Home Affairs to increase the deployment of CISF personnel from 250 to 335 in order to provide better protection and security of MTPS and safety of coal rakes movement from Raniganj to MTPS.

Hon'ble Minister of Power, *vide* his D.O. letter dated 11th March, 2010, requested Hon'ble Minster of Home Affairs for his personal intervention in the matter and have the requisite sanction issued urgently to facilitate deployment of additional CISF personnel.

Hon'ble Minister of Power *vide* D.O. letter dated 11th March, 2010 has also requested Hon'ble Minister of State (Independent charge) for Coal to get the allocation of coal to Sponge Iron units in the districts of Bankura and Burdwan in West Bengal scrutinized in the perspective of their allocation *vis-à-vis* actual consumption and stock.

As regards NTPC, CISF personnel are deployed in Merry-Go-Round (MGR) coal rakes of NTPC and regular interaction with district authorities is done for smooth transportation of coal to prevent pilferage."

B. AVAILABILITY OF GAS FOR POWER SECTOR

1.50 With a targeted GDP growth rate of 9 per cent during the Eleventh Five-year Plan, the energy demand is expected to grow at 5.2 per cent. Driven by the rising population expanding economy, and a quest for improved quality of life, the total primary energy consumption is expected to about 412 MTOE (Million Tones Oil Equivalent) and 554 MTO in the terminal years of the Tenth and Eleventh Plans respectively. India's gas consumption to grow at an average annual rate of 5.1 per cent thereby reaching 2.8 trillion cubic feet by 2025 with the share of electric power sector being of 71 per cent by that time.

1.51 Country's consumption of natural gas has risen faster than any other fuel in the recent years. Natural gas demand has been growing at the rate of 6.5 per cent during the last ten years. Industries such as power generation, fertilizer and petrochemical production are shifting towards natural gas. India's natural gas consumption has been met entirely through domestic production in the past. However, over the years, there has been a huge unmet demand of natural gas in the country, mainly required for the core sectors of the economy. To bridge this gap, apart from encouraging domestic production, the import of LNG

(liquefied natural gas) is being considered as one of the possible solutions for India's expected gas shortages. Several LNG terminals have also been planned in the country.

1.52 There is a total generation capacity of 19200 MW based on gas and liquid fuels. Bulk of it is base loaded under combined cycle operation. However, gas supplies have been restricted and the overall utilization remains at only 54.5%.

(I) Requirement of Gas and Supply Position in 11th plan

1.53 The production and supply of gas had not been keeping pace with the growing demand of gas for the power sector. Supply of gas to gas based power plants during last three years had been as under:—

Sl. No.	Years	Capacity at the end of year (MW)	Requirement (MMSCMD)	Aver. Supply (MMSCMD)	Shortfall (MMSCMD)
(1)	(2)	(3)	(4)	(5)	(6)=(4)+(5)
1	2007-08	13,408.92	65.67	38.14	27.53
2	2008-09	13,599.62	66.61	40.31	26.30
3	2009-10	15,108.62	74.46	60.42	14.06

1.54 The production of gas from KG basin (D-6) has started from April 2009 and the gas supply to Gas based GT stations have improved since then. Power Sector has been allocated 32.677 MMSCMD gas from KG D-6 fields on firm basis and another 12 MMSCMD on fallback basis.

1.55 It may be seen from above that the gas supply for gas based power stations is inadequate. It was enough to operate these stations at about 52% PLF only during 2007-08. Similarly the average gas supply during 2008-09 was 40.31 MMSCMD, against the requirement of 66.61 MMSCMD to operate the stations at 90% PLF, which was sufficient to operate these stations at about 54.46% PLF. The average gas supply

during 2009-10 was 60.42 MMSCMD, against the requirement of 74.46 MMSCMD (as on 31.08.2009) to operate the stations at 90% PLF, which was sufficient to operate these stations at about 73.03% PLF.

1.56 Requirement of gas based projects likely to be commissioned during remaining period of 11th Plan is summarized as below:—

Year	2009-10	2010-11	2011-12	Total
Capacity Addition (MW)	1318	2303	—	3621
Conversion from Liquid Fuel to Gas (MW)	220	—	—	220
Gas Requirement at 90% PLF (MMSCMD)	6.33	11.05	—	17.38

(II) Requirement for Gas for power sector for 12th Five Year Plan

1.57 A capacity addition of about 100,000 MW is proposed in power sector to meet the growing demand of power during the 12th Five Year Plan.

1.58 Keeping in view the requirement of 12th Plan and the likely shortfall in capacity addition during the 11th Plan, there is need to plan for additional gas based capacity to the tune of 25000 MW. Bulk of this capacity could be developed in next 3-4 years. For these to operate at 70% PLF, there would be requirement of 90 MMSCMD of Gas.

1.59 When the Committee asked the Ministry of Power whether the year-wise requirements of gas for power sector have been placed before the Empowered Group of Ministers (EGoM), if so, what is the year-wise approved allocation for the remaining years of the 11th Plan; it has been stated as under:

> "Ministry of Power forwarded the year-wise requirement of about additional 18 MMSCMD of gas for the power projects likely to come up during 2009-10 and 2010-11 to Ministry of Petroleum and

Natural Gas (MoP & NG). The matter was placed before the Empowered Group of Ministers (EGoM), which in its meeting held on 27.10.2009 decided to allocate 5.08 MMSCMD to the five power plants, which were expected to be commissioned in 2009-10.

Besides, the requirement of additional 35 MMSCMD of gas for bringing about 5000-7000 MW gas based generation capacity during 11th Plan itself over and above the projects which are already under execution has also been taken up with MoP&NG. In addition, it was intimated to MoP&NG that another 20,000 MW capacity could also come up in early 12th Plan in case an additional 90 MMSCMD of gas is made available from the year 2012-13."

1.60 The Committee further asked whether the allocated gas will enable the power stations to run at optimal PLF level. In reply the Ministry of Power stated:

"EGoM had allocated 32.677 MMSCMD of gas to the power sector to operate Andhra Pradesh stations at 75% Plant Load Factor (PLF) and non-Andhra Pradesh station at 70% PLF. However, the optimum utilization, the power station should run an average PLF of 90%. Accordingly, Ministry of Power had requested MoP&NG to allocate additional gas to run existing power stations at 90% PLF. MoP&NG has allotted gas on fallback basis for existing plants to run at an optimum level."

1.61 When the Committee desired to know the salient feature of the recently finalized gas allocation policy, the Ministry of Petroleum and Natural Gas in a written reply has stated as under:—

"The Government has constituted an Empowered Group of Ministers (EGoM) to take decisions regarding the commercial utilization of natural gas produced under NELP. The said EGoM has taken various decisions regarding commercial utilization of gas being produced and likely to be produced under NELP from KG D-6 fields. The EGoM has *inter alia* approved the following guidelines for sale of natural gas by NELP contractors:

(i) Contractors would sell gas from NELP to consumers in accordance with the marketing priorities determined by the

Government. The sale would be on the basis of formula for determining the price as approved by the Government.

(ii) Consumers belonging to any of the priority sectors should be in a position to actually consume gas as and when it becomes available. So the marketing priority does not entail any 'reservation' of gas. It implies that in case consumers in a particular sector, which is higher in priority, are not in a position to take gas when it becomes available, it would go to the sector which is next in order of priority.

(iii) In case of default by a consumer under a particular priority sector and further in the event of alternative consumers not being available in the same sector, the gas will be offered by Contractor to other consumers in the next order of priority.

(iv) The priority for supply of gas from a particular source would be applicable only amongst those customers who are connected to existing and available pipeline network connected to the source. So if there is a marginal or small field that is not connected to a big pipeline network, then the Contractor would be allowed to sell the gas to customers who are connected or can be connected to the field in a relatively short period (of say three to six months).

(v) The priority would not impact the process of price discovery whenever it is undertaken, as all the customers would participate in the price discovery process (as already decided by the EGoM) and would be eligible for utilizing natural gas subject to priority.

(vi) Since the supply situation is expected to increase substantially in the near future in view of increased availability from domestic sources and imported gas (LNG/transnational pipelines), these guidelines would be applicable for the next 5 years after which they would be reviewed.

Further, the EGoM has decided the quantity of gas to be supplied to the existing requirement of various priority sectors, *viz.*, fertilizers, power, LPG, City Gas Distribution (CGD), steel, Petrochemicals & Refineries. In brief, the sector-wise allocation is as follows:—

Sector	Firm Allocations	Fallback Allocations	Grand Total
Power	32.677	12	44.677
Fertilizer	15.708		15.708
CGD	1.222	2.165	3.387
Steel	4.19		4.19
Refineries	5	6	11
Petrochemicals	1.918		1.918
LPG	3		3
Captive Power		10	10
Total	63.715	30.165	93.88

1.62 When the Committee desired to know that why not power sector should be given top priority in terms of allocation of gas over all other sectors including Fertilizer Sector as the Power cannot be imported but fertilizer can be. In response to that the Ministry of Petroleum stated:—

"In accordance with EGoM's decisions, MOPNG has issued firm allocations for 63.715 million metric standard cubic meters per day (MMSCMD). Out of this quantity, power sector has been given the highest allocation of 32.677 MMSCMD on firm basis, which is around 51.29% of the total allocation in comparison to allocation of 15.708 MMSCMD (24.65%) to fertilizer, 3 MMSCMD (4.71%) to LPG, 1.222 MMSCMD (1.92%) to CGD projects 1.918 MMSCMD (3.01%) to petrochemicals, 5 MMSCMD (7.85%) to refineries and 4.19 MMSCMD (6.58%) to gas-based steel plants. The allocation to

power sector was made to enable the operation of power plants in Andhra Pradesh at PLF of 75% and those outside Andhra Pradesh at PLF of 70%.

In addition to the above mentioned firm allocation, fallback allocation of 12 MMSCMD was also provided to existing power plants to further increase their PLF. Many power plants have been taking additional gas on fallback basis and have been operating at optimum PLF.

Further, an allotment of 10 MMSCMD has also been made for captive power plants. It has also been decided that amongst all fallback customers, the requirement of power sector would be firstly met and, thereafter, all the remaining customers should be supplied gas on pro rata basis.

Thus, out of the total allocations of 93.88 MMSCMD made by the EGoM, allocations of 54.677 MMSCMD, *i.e.*, 58%, have been made for the power sector.

It can be seen that the requirement of gas in the power sector has been given the highest importance by allotting it the maximum quantity of gas against other sectors, apart from supplying it additional gas on fallback basis."

1.63 On being enquired by the Committee regarding the additional gas supply to power sector during the remaining year of 11th Plan and 12th Plan in light of sharp increase in production of gas over the last year, the Ministry of Petroleum stated:—

"The country has been suffering from shortfall of natural gas for a long time. A large number of assets in various sectors of the economy, including priority sectors, have been under-utilized on account of limited availability of gas. The pre KG D-6 shortfall of natural gas in the country has been estimated at around 95 MMSCMD. The present projection regarding KG D-6 production is till a maximum level of 80 MMSCMD. Hence, the expected production from KG D-6 would be utilized in meeting the existing

shortfall of present assets. The demand from expansion of existing assets and greenfield projects in various priority sectors is very high and has been estimated as over 300 MMSCMD. It is apparent that the availability of gas from KG D-6 field is not sufficient to cater to new assets. Accordingly, gas produced from KG D-6 field can be utilized only for existing assets for the present.

Out of the present total availability of natural gas of around 168 MMSCMD, around 69 MMSCMD, *i.e.*, over 41% is being supplied to the power sector. Out of the present production of around 60 MMSCMD from KG D-6, around 30 MMSCMD is being supplied to power sector. Out of the APM supplies of around 52 MMSCMD, 24 MMSCMD is being supplied to the power sector.

Cases of upcoming power plants are considered for allocation of natural gas from KG D-6. For example, the following power plants, which would be commissioned in 2009-10, have been allotted KG D-6 gas:—

Sl. No.	Name of Power Station	Installed Capacity (MW)	Located in the State
1.	Lanco Kondapalli Extn.	366	Andhra Pradesh
2.	Tanir Bavi	220	Andhra Pradesh
3.	Rithala	108	Delhi
4.	Bawana	250	Delhi
5.	Utran CCPP	374	Gujarat

Further, as regards upcoming power plants, the EGoM has decided that KG D-6 would be allotted to them as and when they are ready to commence production. The EGoM has also decided that it would review from time to time the requirement of natural gas for plants to be completed beyond 2009-10 for making firm allotments to such new plants from the fallback quantity available."

1.64 Explaining gas supply position, The Secretary, Ministry of Power stated during the course of evidence as under:—

> "Today we have about 15000 MW of gas-based power capacity in the country. Since we are proposing to create an additional 25000 MW capacity in the 12th Plan, we would be requiring additional 90 MMSCMD of gas. If we put together the capacities of the existing plants and the plants that are going to come up during the 11th Plan period, and add the 25000 MW, we would be additionally requiring not less than 130 MMSCMD of gas. That means our additional gas requirement, local and imported put together, would be not less than 130 MMSCMD. We are able to get only about 52 MMSCMD against the requirement today."

1.65 When the Committee desired to know the views of the Ministry of Petroleum regarding the meeting the gas demand of power sector, the Secretary, Ministry of Petroleum stated during the evidence:—

> "168 MMSCMD is made available in our country from different sources. Against that, 69 MMSCMD is going to the power sector. That makes it 41 per cent. KG basin is presently producing 60 MMSCMD of gas out of which 30 MMSCMD is going to power sector, which is about 50 per cent. The APM gas is the cheapest; against 52 MMSCMD, 24 MMSCMD has gone to power sector, which makes it 46 per cent. More gas is expected to be produced out of the KG D6 field; firm allocation of 63.715 MMSCMD has been made and additional 30 MMSCMD has been allocated on fall-back basis. Against the firm allocation, over 50 per cent, to be very precise, 51.29 per cent has been given to power sector. If we include fall-back, the power sector including captive power which will also augment the power availability in the country, the percentage comes to 58 per cent. As regards the year 2011-12 is concerned, domestic production since it has to come out of the fields which are yet to be discovered, one connot say with certainty how much will be produced, however, some estimates have been made; including the imported gas, it is expected that by 2011-12; 200 MMSCMD will be made available. As and when it is, matter will be put up to the Government for appropriate allocation.

The position is that presently 168 MMSCMD of gas is available in the country including our indigenous sources and import, out of which 69 MMSCMD is being supplied to power sector. That comes to about 41 per cent. In this connection, I would like to mention that in the last six months in particular, there has been considerable improvement in availability of gas to power sector. Six months ago only 38 MMSCMD has been added and that makes 38 plus 22, that is sixty. This is an improvement of 60 per cent in the last six months and that is because we have got production from KG D6 field which is going to almost double the domestic availability of gas within one year of start which took place in the month of April, 2009. As far as the year 2011-12 is concerned, we have certainly uncertainties about production of gas, but to the extent we are able to make estimates, it is estimated that the total availability of gas will be 200 MMSCMD in the year 2011-12. Out of that what will go to the private sector at the moment, it is very difficult to say because whatever gas is available, there are competing claims. Of course, power is one of our priorities."

1.66 In respect of utilization of gas from KG Basin, the Secretary, Ministry of Petroleum stated:—

"The Empowered Group of Ministers has been constituted to look into the allocation of this biggest source of supply today from KG Basin. They looked into the requirements from various sectors and they have allocated maximum to the power sector. Now, when meeting on 27.10.2009 took place, our Ministry requested the Empowered Group of Ministers that five new power plants are going to be commissioned in 2009-10 and the Empowered Group of Ministers was kind enough to consider the request of all the five plants which are going to be commissioned. But they have also taken a view that we cannot reserve gas for future because gas is a short-supply commodity. As and when plants go on getting commissioned, whatever we have, we will look into the demands of every one and we will supply to these sectors. Certainly, power and fertilizers are top most priority sectors. Presently about 60 MMSCMD is being produced out of KG Basin. But we have

allocated on firm basis 63.715 MMSCMD. The peak production has been estimated at 80 MMSCMD. 63.715 MMSCMD have been allocated on firm basis and another 30 on fall-back basis—ten more than the peak production has been allocated on fall-back basis. Why we have added ten more is because of those to whom we allot, there are quite a few who do not utilize their full quantity because some machinery is not in order or supposing we allocate for some particular PLF or some reason or the other, they do not take. If they do not take, it will go on fall-back and in fall-back the first priority is to power. Therefore, against the estimated peak production of 80, we have allocated 63.715 on firm basis power allocation is 32.677 so more than 50 per cent is to power. The next category is fertilizers which are 15.708, roughly half of power has gone to fertilizers. City gas is less than 1.222, steel has got 4.19, refineries have got five, petrochemical has got 1.9, less than 2: LPG sector has got 3 and that totals up to 63.715. So, this is the position of KG basin gas utilization."

(III) Transnational Pipelines

1.67 The Ministry of Petroleum informed the Committee that the Government has accorded priority to enhance energy security of the country. A multi-pronged strategy has been adopted to augment gas supplies and to bridge the gap between supply and demand for the domestic market by intensification of domestic E&P activities, including Coal Bed Methane (CBM), through LNG imports, and new technologies like underground coal gasification and Natural Gas Hydrate Programme (NGHP). In this context, Government is also trying to ensure import of natural gas through transnational gas pipelines. Presently import of natural gas is being pursued from Iran through IPI Gas Pipeline Project and from Turkmenistan through TAPI Gas Pipeline Project. In addition, India pursued import of natural gas from Myanmar through Indo-Myanmar Gas Pipeline Project. Various important issues, *viz.*, pricing of gas, delivery point of gas, project structure, payment of transportation tariff and transit fees for passage of natural gas through Pakistan, etc., are under discussion amongst the participating countries.

1.68 Such multilateral projects involve protracted discussions, as all the aspects have to be carefully examined and deliberated upon to the satisfaction of the participating countries to protect each country's interests and to avoid any problems in the future in the successful operation of the project. Work on the Projects can commence only after satisfactory resolution of issues under discussion amongst the participating countries. Status notes on IPI Gas Pipeline Project and TAPI Gas Pipeline Project are given below:—

Iran-Pakistan-India (IPI) Gas Pipeline Project

1.69 In pursuance of the Cabinet decision of 9.2.2005, the Government is discussing the details of the Iran–Pakistan–India (IPI) Gas Pipeline Project with the Governments of Iran and Pakistan. 60 MMSCMD of gas is proposed to be supplied in Phase-I, to be shared equally between India and Pakistan. 90 MMSCMD of gas is likely to be supplied in Phase-II to India and Pakistan.

1.70 A tripartite Joint Working Group (JWG) of Iran, Pakistan and India has been formed. Two separate Secretary level Joint Working Groups (JWGs), *viz.*, India-Pakistan JWG and India-Iran Special JWG have been constituted.

1.71 During the 4th tripartite meeting held in Tehran on January 24 and 25, 2007, a gas pricing formula regarding pricing of gas at Iran-Pakistan border was agreed between Iran and Pakistan sides, subject to approval from the respective Governments. India conveyed to the Iranian side, *vide* letter dated 28.2.2007, that the total price payable at India-Pakistan border would also include and depend on transportation cost and transit fees payable by India to Pakistan for passage of gas through Pakistan; as there was no clarity on these, it was not possible for India to decide regarding the total price implication. Subsequently, Iran demanded introduction of a price revision clause in the 5th Tripartite JWG meeting held in Tehran during May 28 and 29, 2007.

1.72 The 6th Tripartite meeting was held in New Delhi on June 28 and 29, 2007; several issues, including gas price review clause, were

discussed amongst the participating countries. It was decided to carry forward the discussions to the next round of meetings.

1.73 A delegation led by Joint Secretary (MoP&NG) participated in an official level meeting between India and Pakistan for discussions on pending bilateral issues on April 16-17, 2008 in Islamabad. Subsequently, a Ministerial-level meeting between India and Pakistan on the IPI Project has been held in Islamabad on April 25, 2008. During the meeting, issues relating to project structure, transportation tariff and transit fee were discussed. Mainly, security concerns and issues related to tariff have to be taken into consideration in such matters.

1.74 More recently, Ministry of Petroleum and Natural Gas has taken up with Iran to have on early meeting of Indo-Iran Joint Working Group (JWC) on oil and gas and Indo-Iran special JWG on IPI gas pipelines. The meetings would be held in Tehran for which mutually convenient dates are being worked out.

Turkmenistan-Afghanistan-Pakistan-India (TAPI) Gas Pipeline Project

1.75 The Governments of Turkmenistan, Afghanistan and Pakistan proposed transnational gas pipeline to exploit available gas reserves in Turkmenistan. They designated ADB as the lead development partner. ADB carried out the study and approached India for participating in the project. The Ministry of Petroleum & Natural Gas brought the matter before the Cabinet in May 2006 after inter-Ministerial discussions. The Cabinet in its meeting held on 18th May 2006, accorded 'in principle' approval to the proposal for India joining the Project. India has been admitted as an official member of the Project in the 10th Steering Committee Meeting (SCM) of the Project held on April 23-24, 2008 in Islamabad.

1.76 The total capacity of the proposed pipeline is about 90 MMSCMD and the length is about 1680 km. The length of pipeline in Turkmenistan, Afghanistan and Pakistan up to India border is 145 km, 735 km and 800 km respectively.

1.77 During the 10th SCM, Gas Pipeline Framework Agreement was initiated between the Ministers of all the participating countries. In addition, various important issues concerning the Project were discussed. Subsequently, the 3rd meeting of TWG was held in May 2008, wherein discussions were held on Gas Sale Purchase Agreement (GSPA), pricing, draft Agreements, etc. Heads of Agreement were initialed by the representatives of the participating countries. The same will be signed after obtaining the formal approval of the respective managements/ Governments. 4th meeting of TWG was held during September 3-5, 2008 in Ashgabat, wherein further discussions were held on GSPA. Discussions were also held on technical specifications of gas. 5th meeting of TWG has been held on August, 4th to 6th , 2010 in Ashgabad.

CHAPTER II

OBSERVATIONS/RECOMMENDATIONS OF THE COMMITTEE

(I) Requirement and Supply of Coal

2.1 The Committee note that there has been anticipated generation of 525 billion unit from thermal based power stations during the year 2009-10. To meet this generation and build stock upto reasonable level, coal requirement for the year worked out to be 404 MT. Against this requirement, total indigenous coal availability has been estimated to be 363 MT leaving the gap of 41 MT. Similarly, for the year 2010-11, the requirement of coal is 444 MT and total availability of indigenous coal is 388 MT leaving a shortfall of 56 MT. For the 2011-12, coal requirement has been estimated to be 532 MT against the availability of 414 MT. After the introduction of New Coal Distribution Policy, coal supply to all consumers including power sector are covered under Fuel Supply Agreement (FSA). The Committee note that while planning and forecasting the requirement of coal for the power stations, the calculation is done on the normative requirement which is 90% of the plant load factor of that power station. For power stations commissioned by 31st March, 2009, coal requirement was estimated on the basis of actual performance of the power plants during the last three years. However, for new power plants *i.e.* power stations commissioned after 1st April, 2009, Annual Contracted Quantity (ACQ) is yet to be decided. The Committee also note from the list furnished by the Ministry of Power that there are various thermal power stations where ACQ under FSA was less than the normative requirement of the coal. Coal supply position for the plants commissioned after 1st April, 2009 and for the new power plants which are likely to be commissioned in 2010-11, 2011-12 and beyond is likely to aggravate further in view of the substantial addition in the coal based power capacity. In respect of power plants

commissioned after 31st March, 2009, the arrangement between CIL and CEA for supply of coal has not fully been materialized so far as the allocation being made by the CEA for the new power plants is over and above the incremental availability being offered by CIL for the year 2010-11. Total demand of coal in the country in the terminal year of the 11th Plan *viz*. 2011-12 is 713.24 MT, whereas the indigenous availability is envisaged at 591.78 MT. Out of this CIL contribution is 486.50 MT only leaving huge deficit of 121.46 MT. Taking into consideration the availability constraints, CIL took conscious decision to make available only 50% of the normative requirement of any consumer including power stations in future. The term of FSA for new consumers including power stations has also been reduced to 5 years from 20 years. The Committee infer that the coal demand and supply scenario in future is extremely gloomy. Bulk of the capacity addition depends on thermal power. To bridge the gap some emergent steps are required in the short term and a detailed strategy for smooth coal supply to meet our requirement in future is need of the hour. The Committee, therefore, strongly recommend that there should be a uniform criteria for ACQ for the power plants irrespective of their date of commissioning. Besides, for immediate resolution of the problem import of the required quantity of coal should be immediately tied up. As a long term measure, avenues should be explored wherein the indigenous coal production can be augmented, gestation period in the development of coal blocks is brought down, new coal mines areas are identified, latest technology is used to increase production- minimize expenses and acquisition of the coal mines abroad are done to achieve our energy targets.

(Recommendation Sl.No. 1)

2.2 The Committee note that there are coal stocking norms for power stations of different categories based on their distance from the coal mines. It is 15 days for pit head power stations, 20 days for stations located upto 500 km, 25 days upto 500 to 1000 km and 30 days for beyond 1000 km. The stocking norms are aimed to achieve optimal power generation, if properly adhered to.

However, the Committee's examination has revealed that these norms are not being followed in most of the cases. Many of the plants have been categorized as critical as they have coal stocks of less than 7 days. As on 13.05.2010 as many as 6 plants were in super critical category having stock of less than 4 days. Slight negligence from any of the involved agencies that supply coal to power stations would result in shut down of the plants for the want of coal. Although the Ministry of Coal take stock of the situation regarding supply of coal to power stations on monthly basis yet various power stations are not having the coal stocks as per specified norms. The reasons for this situation have been attributed to non-availability of proper and sufficient rail rakes, pilferage during the transportation, constraints in existing rail transportation infrastructure, old/ outdated loading and unloading facilities etc. The basic infrastructural facilities at mines, loading, safe/proper and timely transportation need to be periodically reviewed to ensure the availability of coal to power stations as per the norms. The Committee, therefore, strongly recommend that necessary steps should be taken to augment the base work to ensure the assured coal supply to power stations as per the norms.

(Recommendation Sl.No. 2)

(II) Development of Coal Blocks

2.3 The Committee note that the process of allocation and development of coal blocks is long, cumbersome and fraught with uncertainties. So far, 93 captive coal blocks and 208 coal blocks with approximate reserves of 48.82 billion tonnes have been allotted to various utilities in power sector. However, the production has commenced in only 5 coal blocks and the production was 30.02 million tonnes during the year 2008-09 from these coal blocks. This is highly unsatisfactory situation. The Committee understand the problems involved in the development of coal blocks such as forest clearance for exploration, clearance before exploration, problems in land acquisition, forest clearance for coal mining, delay in grant in licensing etc. However, despite these obstacles, the gestation period

of 3 to 7 years for reaching the production stage and another 2 to 3 years for reaching the optimum capacity is too high. The Committee have been informed that the allocattee of the coal blocks who have not started the production so far, are in various stages of obtaining the statutory clearances and mining lease, preparing mining plans, acquisition of land, procuring machinery etc. for both mining as well as end use production. However, no data has been made available to the Committee with regard to specific time schedule as to when these blocks will commence production. The responsibility of developing the coal blocks rest entirely with the allocattee company within a specified period, failing which possibility of de-allocation always looms large. In the opinion of the Committee, this is an extremely unilateral approach and tantamount to transferring the yoke. With pre-conditions like forest clearances, land acquisitions, forest clearance before commencement of the exploration etc., it is likely that delay may occur. De-allocation of the coal blocks will make the matter worse. Some penal provisions may be enshrined to expedite the development of coal blocks. Rather it will be befitting if the Ministry of Coal and the allocattee company shoulder responsibility in conjunction. Being the specialist in the field, the Ministry of Coal is in a position to foresee the problems related to the development of the coal blocks and suggest various pre-emptive measures to the allocattee utility. The Committee, therefore, recommend that the Ministry of Coal may first prepare an inventory of coal reserves in the country along with the possible problems and their likely solutions with regard to the each coal blocks before taking a decision for their allocation. This will not only help in reducing the gestation period of coal production but will also remove the air of uncertainty about future course of action.

(Recommendation Sl.No. 3)

2.4 It appears to the Committee that the process of allotment of coal blocks is too officious, mechanical and unimaginative. As of now it appears that coal blocks are allocated without analyzing their usefulness to the allotee utilities. Instead of looking at the issue in its entirety to take the process to logical ends *i.e.* the allotted

block become useful to the allocattee by meeting their requirement and expectations as well, a short sighted view with limited role and responsibility appears to be the hallmark in this regard. The matter does not end with the routine mechanical process of allotting a coal block and appending certain pre-conditions to develop it within a specified time period. The Ministry of Coal should also be responsible enough to become facilitator to remove the bottlenecks in the development of the coal blocks rather than playing a role of big brother intimidating the power utilities for the reasons for which they are not directly responsible. The allotment and the subsequent de-allotment of the Kasta (East) coal block to the DVC is glaring illustration of the manner in which the system is working there. Instead of finding a solution as to how the Kasta coal block can become economically viable for DVC, the blatant de-allocation speak of the arrogance and displays the tendency of shedding its own responsibility. Had the two adjutant blocks *viz.* Kasta(west) and Kasta (south) been clubbed with the Kasta(east) block, it might have resulted in fruitful exercise solving the problem of DVC, expediting and enhancing the coal production. The plea that the other two blocks are not identified and are not in the list of blocks for the allocation does not hold good as the DVC might have been reasonably assured of their allotment after the identification of the blocks. There is lack of vision, will and determination on the part of the Ministry of Coal to resolve the issue to the satisfaction of the utilities. This kind of approach is bound to complicate the entire process. The Committee, therefore, strongly recommend that the allotment of the coal blocks to the power utilities should be done in a transparent and objective manner. The requirement of the power utilities should be met from the geographically adjutant blocks to facilitate the smooth excavation and carriage of the coal and to minimize the related storage/transportation costs involved therein.

(Recommendation Sl.No. 4)

(III) Environmental Clearances to Coal Projects:

2.5 The Committee note that the environmental clearance is a statutory obligation without which no activity with regard to the

development of coal mines and mining of coal can take off. As many as 89 coal projects are awaiting clearances from the Ministry of Environment & Forest. This has adversely affected the planned enhanced coal production. The Committee have been informed that a period of about three years is taken to give any clearance by MoEF. On being asked by the Committee about the reasons for such a long time, the MoEF submitted that Environmental Clearance is a three stage process involving:

(i) Terms of reference for preparation of Environmental Impact Assessment, Study — Environmental Management Plan;

(ii) Conduct of public hearing; and

(iii) Preparation of Environmental Impact Assessment Report— Environmental Management Plan for the projects.

Thereafter, Expert Appraisal Committee initiates the process as per the laid down procedures. It has also been informed that a time limit of 105 days has been prescribed in Environmental Impact Assessment (EIA) notification for the grant of Environment Clearance (EC). However, the main cause for delay as stated by MoEF is the submission of proposal for TOR/EC without completion of exploration of coal blocks. The exercise of exploration is undertaken to ascertain the extent of mineable coal reserves. This is the pre-conditions before submitting the proposal for EC. The Ministry of Coal often allocate coal blocks without completion of exploration process. Mining plans are also approved with partial or incomplete exploration. Resultantly, project proponents are submitting proposals for EC for such coal blocks for which EIA reports are prepared even without the specific assessment of coal reserves to be mined. Since the impact on environment cannot be assessed unless the mining of the coal blocks is undertaken; this is a very major lacuna in the EC process. Coal blocks are also being allocated in new virgin areas of coalfields with a large number of reserve/protected forests. To meet the situation MoEF is in the process of identifying 'Go' and 'No Go' areas in

all major coalfields of the country where blocks have been allocated by overlaying forest map on coal atlas map. The Committee find that the problem of environmental clearance has been created by the Ministry of Coal. Even the decisions taken at a joint meeting with the officials of the Ministry of Coal, MoEF, CIL and other subsidiaries of CIL are not being adhered to by CIL and its subsidiary companies and other utilites by the frequent up-gradation of projects. The submission of proposals, without exploration frequent up-gradation of projects, poor functioning of the technical wings of the coal companies to address the environmental issues properly etc. appear to be more cogent reasons for faceoff between the two Ministries. The reasons like (i) delay in acquisition of land; (ii) adverse geo-mining condition; and (iii) delay due to law and order problems are also very important factors in the overall delay in a development of coalmines. Therefore, the holistic view should be taken to identify all activities responsible for delay and suggesting appropriate efficacious remedial measures. Environmental reservations are equally sacrosanct and cannot be allowed to be violated for maximizing the productions blindly. The Committee, therefore, would like the coal companies and other block allocattee companies to complete all processes in a time bound manner before approaching the Ministry of Environment and Forest. The MoEF should also expedite process of granting clearance so as to achieve the given timeframe in all cases. The Committee, therefore, recommend that with a view to avoid delay in grant of EC, some independent mechanism should be put in place to examine and certify that proposals of the Ministry of Coal confirm to all statutory requirements for Environment Clearance. This will also help in clearing the air of suspicion, uncertainty and blame game between the two Ministries of the Government. The proposal for EC should be sent only after the approval by such independent agency. The base date for computing the period for EC should be the date when it is received in MoEF from such designated agency. Thereafter, the EC must be accorded within a specified time frame failing which MoEF should be held accountable for the delay.

(Recommendation Sl.No. 5)

(IV) Acquisition of Coal Mines Abroad

2.6 The Committee are happy to note that some efforts are underway to put an institutional mechanism for acquisition of coal mines abroad. The process involves numerous activities which could be time consuming as well. Several safeguards like necessary statutory clearances, effective transport arrangements, smooth carriage of coal, synchronization of imported coal with the needs of local power utilities of the country and economic viability of the entire exercise etc. are necessary pre-requisites for any venture pertaining to the acquisition of the coal mines abroad. The creation of International Coal Ventures Pvt. Ltd. (ICVL), a conglomeration of SAIL, CIL, NTPC, RINL and NMDC aims at securing metallurgical coal and thermal coal assets from overseas. The Committee have been apprised that the due diligence of the proposal is underway. Besides, NTPC is also currently exploring the possibility of acquiring stakes in Indonesia, South Africa and Mozambique. In order to meet our long term coal requirements for ever-increasing targets of power capacity addition, these efforts, if materialize, will greatly ease the much strained domestic coal supply and will also smoothen the entire process of coal allocation and distribution to the power utilities in the country. Needless to emphasis the urgency in the matter, the issue merit expediting the entire process of acquiring the coal blocks abroad. The Committee, therefore, recommend that the newly formed Joint Venture and other PSUs like NTPC should go whole hog in the hot pursuit of acquiring the much needed coal reserves abroad so as to enable us not only to meet our coal requirements for our thermal power generation but also to save our indigenous reserves for the future.

(Recommendation Sl.No. 6)

(V) Import of Coal

2.7 The Committee note that there is perennial gap in demand and supply of the coal with the power utilities. On a short term basis this supply deficit can be met only through the import of coal. The deciding factor for supply of domestic coal for the thermal power

station is 90% PLF or the actual performance of plant during the last three years if the plants commissioned before March 2009. Deficit of 10% of the demand is already established even before the requirement is placed. During the year 2009-10 CIL was to import 4 MT of coal from overseas with the provision that there may be increase in import by 2011-12 based on the requirements of the utilities. However, the said import could not take place due to absence of any firm commitment from the power utilities. This is astonishing and reflects poorly on the co-ordination between the power utilities and CIL. The Committee have been apprised that the CIL is now in process of exploring and firming up port and other logistics required for import of coal. They are also ascertaining the demand for import of coal for power sector during 2010-11 to finalize the process of import of coal. The Committee have also been informed that power utilities themselves can make their own arrangement for import of coal against the target fixed by the Ministry of Power. During 2009-10 the power utilities imported 23.1 MT against the target of 28.70 MT fixed by the Ministry of Power. The modalities and mechanism for such import of coal are decided by the power utilities. There is also an element of blending of imported coal with the indigenous one upto certain percentage based on the boilers designs of power plants. The Committee, therefore, strongly recommend that with a view to obviate the gap in the supply of coal to power utilities it has become necessary to plan about the import of coal well in advance to achieve the capacity addition targets as also to run the existing plants optimally. Hence, the plea of no firm commitment from power utilities or the power utilities themselves can import the coal will only add to the problem of coal supply. Coal requirement of thermal power stations are known well in advance, based on that estimation of domestic requirement can be arrived at. Thereby deciding as to what quantity of coal has to be imported for meeting the requirement. The Committee, therefore, would like the Ministry of Power to make mandatory for the power utilities to have advance planning for import of coal either directly by power utilities or through Coal India Ltd. This essential import may be included in Memorandum of Understandings (MoUs) signed

between the Ministry of Power and central PSUs under its administrative control. Similarly, this aspect should be reviewed by the Ministry/ Ministry's representatives on the Board of PSUs in Quarterly review meeting done in respect of PSUs, review of MoUs, Board meetings etc. The Ministry of Coal should also review the working of CIL in regard to its coal imports so as to ensure that proper coordination is ensured with power utilities in regard to assessment of coal imports and their timely imports at competitive prices. The Committee would await specific action by the Ministry of Power and the Ministry of Coal in this regard.

(Recommendation Sl.No. 7)

(VI) Transportation of Coal by Rail

2.8 The Committee note that lack of timely transportation of coal has been the nagging problem forcing power plants to run below their capacity. On being asked about the steps to ensure availability of sufficient rakes to transport the coal on time, it has been stated that the present coordination with the Ministry of Railways has been satisfactory. Company-wise coal distribution in respect of power stations needs to be reviewed in consultation with the Ministries of Railways, Coal, Power and CEA keeping in view the constraints in the existing rail transportation infrastructure for transportation of desired types of railway rakes commensurate with the coal loading and unloading facilities available at the power stations. It has also been stated that the issue of availability of adequate railways rakes for transportation of coal to the power stations is also reviewed at the various forums. The Committee have been apprised that in order to supply 333 MT of coal to the power utilities during 2010-11, they have planned an incremental off-take to the tune of 44 MT. In order to achieve this incremental off-take the rail dispatch has been projected at 185 rakes per day against present average loading of 165 rakes per day during 2009-10. Therefore, there is additional requirement of 29 rakes per day. Thus, the availability of rail rakes requires growth by 19% to achieve the planned level of off-take against the actual growth of 1% during the 2009-10. The Committee,

therefore, strongly recommend that coordination mechanism must explore some new avenues regarding availability of additional rail rakes to transport the available coal in time. The plan of dedicated freight corridor should also be expedited and should *inter-alia* cover the coal belts to facilitate the quick and effective transportation of coal to the power utilities.

(Recommendation Sl.No. 8)

(VII) Availability of Gas for Power Sector

2.9 The Committee note that the supply of gas to the gas based power plants is not keeping pace with the growing demand. Although the supply has improved over the years yet a lot is required to be done to meet the gas requirements of power utilities. The present gas based power generation capacity of about 15000 MW. As against the requirement of about 75 mmscmd, the allotted gas is about 60.42 mmscmd, leaving a gap of about 14 mmscmd. Further, an allotment of 10 mmscmd has has also been made to captive power plants on fallback basis. Thus out of total firm allocation of 63.715 mmscmd, allocation of 32.677 mmscmd constituting about 50% of the total allocation has been made to power sector. The aggregate gas allocation to the power sector (32.66 mmscmd firm allocation, 12 mmscmd fall back allocation and another 10 mmscmd fall back allocation for captive power plants.) is 54.67 mmscmd out of 93.88 mmscmd. This is about 58% of the total allocation constituting the highest allocation to the power sector. On the other hand, on the scrutiny of the data, the Committee find that against the demand of gas for power sector the supply during the year 2007-08, 2008-09 and 2009-10 has been only 58%, 60% and 80% respectively.

The Committee, note that the pre-KG D-6 shortfall of natural gas has been estimated at around 95 mmscmd. The present projection regarding KG D-6 production is a maximum level of 80 mmscmd. Hence, the expected production from the KG D-6 can be utilized only in meeting the existing shortfall. The existing gas based power capacity is 15000 MW and 25000 MW additional capacity is proposed

to be installed during the 12th Plan. The future demand from various quarters has been estimated to be around 300 mmscmd and this cannot be met from the KG D-6 field. The Committee, therefore, strongly recommend that besides firming up the KG D-6 field to optimize its production, sincere efforts should be made for identification of the gas reservoirs in the country/outside the country with a view to harness them for our requirements.

(Recommendation Sl.No. 9)

2.10 The Committee note that even though power sector utilities are going for captive mines, direct import of coal, acquisition of coal assets abroad, there appears no efforts to make participation in petroleum/gas sector. It would be great help to power utilities to have participation in Joint Venture engaged in exploration and production of gas in the country and abroad. This would help the power sector in ensuring assured and enhanced gas supply to run their power plants at optimal level.

(Recommendation Sl.No. 10)

2.11 The Committee note that efforts are afoot for transnational gas projects yet given the geo-political realities, their becoming a reality in near future is highly unlikely. In respect of Iran-Pakistan-India (IPI) Gas Pipeline Project, India was supposed to receive a 30 mmscmd in Phase-I and 45 mmscmd in Phase-II. Whereas, the proposed Turkmenistan-Afghanistan-Pakistan-India(TAPI) Pipeline has the total capacity of supplying 90 mmscmd of gas. These two gas pipelines projects, if materialize, would greatly ease our gas requirement. However, the scrutiny by the Committee reveals that there has been inordinate delay in the finalization of both the pipeline projects on the ground of security and tariff issues. All out efforts should be made to expedite the matter by resolving the issues involved. The Committee further recommend that as the execution of the above pipelines are in unclear domain due to international political issues, therefore, the Government should simultaneously focus on strengthening the internal sources of gas and leave no stone

unturned in respect of exploring and developing the new indigenous sources of gas. Needless to emphasis the importance that the Power Sector hold for the development of the country, the Committee strongly recommend that the maximum possible share of existing gas production and the gas that would be available in future should be allotted to the Power Sector.

(Recommendation Sl.No. 11)

NEW DELHI;
18 *August*, 2010
27 *Sravana*, 1932 *(Saka)*

MULAYAM SINGH YADAV,
Chairman,
Standing Committee on Energy.

APPENDIX I

LIST OF THERMAL POWER STATIONS WHERE ACQ UNDER FSA WAS LESS THAN THE REQUIREMENT

Vide Para 1.12 of the Report

Figures in '000 Tonne'

Sl. No.	Thermal Power Station	COAL Requirement for 2009-10 (As per Generation Target)	Total ACQ (CIL/ SCCL)	Coal Available from Captive Blocks	Total	Short fall
1	2	3	4	5	6	7
1.	Panipat	7200	6600		6600	600
2.	Yamuna Nagar	3000	2800		2800	200
3.	Bhatinda	2200	1095	948	2043	157
4.	Lehra Mohabbat	4400	1350	3000	4350	50
5.	Ropar	7000	4155	2196	6351	649
6.	Kota	6800	6000		6000	800
7.	Suratgarh	6900	6600		6600	300
8.	Harduaganj	1000	900		900	100
9.	Obra	5600	5000		5000	600
10.	Panki Extn.	1100	900		900	200
11.	Parichha	3500	3200		3200	300
12.	Tanda (NTPC)	2800	2700		2700	100
13.	Unchahar (NTPC)	6100	5700		5700	400

1	2	3	4	5	6	7
14.	Rihand STPS	10700	10500		10500	200
15.	NCTPP(Dadri)	4600	4400		4400	200
16.	Ahmedabad	2300	1340		1340	960
17.	Gandhinagar	4800	3460		3460	1340
18.	Sikka	1300	1220		1220	80
19.	Ukai	4300	4170		4170	130
20.	Wanakbori	8800	8520		8520	280
21.	Amarkantak	1800	2000		2000	-200
22.	Birsingpur	6900	6400		6400	500
23.	Satpura	6900	6600		6600	300
24.	Korba East (EXP)	2800	2600		2600	200
25.	Korba STPS	12500	12200		12200	300
26.	Bhusawal	2900	2800		2800	100
27.	Chandrapur	14300	12800		12800	1500
28.	Koradi	6200	5300		5300	900
29.	Khaperkheda	5400	5000		5000	400
30.	Nasik	5400	4700		4700	700
31.	Paras	2000	1800		1800	200
32.	Dahanu	3200	2450		2450	750
33.	Vijayawada	7300	6000		6000	1300
34.	Ramagundam STPS	13000	11200		11200	1800
35.	Rayalaseema	4900	2950		2950	1950
36.	Simhadri	6000	5200		5200	800

1	2	3	4	5	6	7
37.	Raichur	9000	7120		7120	1880
38.	Ennore	2000	1632		1632	368
39.	Mettur	4900	3886		3886	1014
40.	Tuticorin	6600	5057		5057	1543
41.	North Chennai	3500	2925		2925	575
42.	Kahalgaon STPS	13000	6000		6000	7000
43.	Patratu	2400	1000		1000	1400
44.	Bokaro (DVC)	3100	3000		3000	100
45.	Chandrapura (DVC)	1800	1700		1700	100
46.	Mejia (DVC)	6800	5200		5200	1600
47.	Bandel	1700	1200		1200	500
48.	Sagardighi	3100	2600	0	2600	500
49.	Santaldih	2800	2200		2200	600
50.	Kolaghat	6700	5000	308	5308	1392
51.	S. G.Stn. (CESC)	800	300	396	696	104
52.	Budge Budge (CESC)	2500	500	1368	1868	632
53.	Farakka STPS	10000	9000		9000	1000
54.	Talcher Old	2800	2500		2500	300
55.	Talcher STPS	18800	17300	0	17300	1500
56.	Ib Valley	2900	2700		2700	200
	TOTAL	301100	251430		259646	41454

APPENDIX II

STANDING COMMITTEE ON ENERGY

MINUTES OF THE FOURTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2009-10) HELD ON 26TH OCTOBER, 2009 IN COMMITTEE ROOM '62' PARLIAMENT HOUSE, NEW DELHI

The Committee met from 1100 hrs. to 1300 hrs.

PRESENT

Shri Mulayam Singh Yadav—*Chairman*

MEMBERS

Lok Sabha

2. **Mohammad Azharuddin**
3. **Shri P.C. Chacko**
4. **Shri Ram Sundar Das**
5. **Shri Paban Singh Ghatowar**
6. **Shri Arjun Munda**
7. **Shri Jagdambika Pal**
8. **Shri Ravindra Kumar Pandey**
9. **Shri Nityananda Pradhan**
10. **Shri M.B. Rajesh**
11. **Shri Ganesh Singh**
12. **Shri Radha Mohan Singh**
13. **Shri Subhash Bapurao Wankhade**

Rajya Sabha

14. **Shri Motilal Vora**
15. **Shri Santosh Bagrodia**

16. Shri Rama Chandra Khuntia
17. Shri Bhagat Singh Koshyari
18. Shri Shivpratap Singh
19. Shri Shyamal Chakraborty
20. Shri Veer Pal Singh Yadav
21. Shri Govindrao Wamanrao Adik
22. Shri Mohammad Shafi

SECRETARIAT

1.	Shri Brahm Dutt	—	*Joint Secretary*
2.	Shri Shiv Singh	—	*Director*
3.	Shri Shiv Kumar	—	*Additional Director*
4.	Shri Rajesh Ranjan Kumar	—	*Deputy Secretary*

REPRESENTATIVES OF THE MINISTRY OF POWER

Ministry of Power

1.	Shri Hari Shankar Brahma	—	Secretary
2.	Shri Anil Kumar	—	Additional Secretary
3.	Shri G.B. Pradhan	—	Additional Secretary
4.	Shri Rakesh Jain	—	Joint Secretary & FA
5.	Shri I.C.P. Keshari	—	Joint Secretary
6.	Shri Sudhir Kumar	—	Joint Secretary
7.	Shri Devender Singh	—	Joint Secretary
8.	Shri Srikara Naik	—	Economic Advisor

Central Electricity Authority

1.	Shri Rakesh Nath	—	Chairperson
2.	Shri S.M. Dhiman	—	Member
3.	Shri V. Ramakrishna	—	Member

Public Sector Undertakings/Autonomous Bodies/Statutory Bodies

1.	Shri R.S. Sharma	—	CMD, NTPC
2.	Shri S.K. Chaturvedi	—	CMD, PGCIL
3.	Shri P. Umashankar	—	CMD, REC
4.	Shri Satnam Singh	—	CMD, PFC
5.	Shri S. Biswas	—	Chairman, DVC

At the outset, the Chairman welcomed the Members of the Committee and the representatives of the Ministry of Power to the sitting of the Committee and apprised them of the provisions of Direction 58 of the Directions by the Speaker.

2. The representatives of the Ministry of Power made a power-point presentation on the subject 'Availability of Gas and Coal for Power Sector'.

3. The Committee *inter-alia* discussed with the representatives of the Ministry of Power on the following important points:—

(i) Overall position of power generation *vis-a-vis* supply of gas and coal to the Thermal Power Stations.

(ii) Coal based power generation — (a) development of coal blocks; (b) import of coal to bridge the gap between coal requirement and indigenous availability and (c) acquiring coal mines in foreign countries.

(iii) Gas based power generation — (a) availability and requirement of gas for power generation and (b) finalization of gas utilization policy.

(iv) Coordination with the Ministry of Petroleum & Natural Gas and Ministry of Coal; and

(v) Contingency Plan of the Ministry in this regard.

The Members sought clarifications on various issues relating to the subject and the representatives of the Ministry responded to the same. The Committee directed the representatives of the Ministry to furnish written replies to the queries which could not be responded to by them.

4. The Committee decided to have evidence of the representatives of the Ministry of Power, Ministry of Petroleum and Natural Gas and Ministry of Coal on the subject in the next sitting.

5. A verbatim record of the proceedings of the sitting of the Committee has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE FIFTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2009-10) HELD ON 12th NOVEMBER, 2009 IN COMMITTEE ROOM NO. '62' PARLIAMENT HOUSE, NEW DELHI

The Committee met from 1030 hrs. to 1300 hrs.

PRESENT

Shri Santosh Bagrodia — *In the Chair*

MEMBERS

Lok Sabha

2. Shri P.C. Chacko
3. Shri Ram Sundar Das
4. Shri Paban Singh Ghatowar
5. Shri Shripad Yesso Naik
6. Shri Sanjay Nirupam
7. Shri Jagdambika Pal
8. Shri Nityananda Pradhan
9. Shri M.B. Rajesh
10. Dr. K.S. Rao
11. Shri Radha Mohan Singh

Rajya Sabha

12. Shri Motilal Vora
13. Shri Rama Chandra Khuntia
14. Shri Shyamal Chakraborty
15. Shri Veer Pal Singh Yadav
16. Shri Govindrao Wamanrao Adik
17. Shri Mohammad Shafi

SECRETARIAT

1.	Shri Brahm Dutt	—	*Joint Secretary*
2.	Shri Shiv Singh	—	*Director*
3.	Shri Rajesh Ranjan Kumar	—	*Deputy Secretary*

REPRESENTATIVES OF THE MINISTRY OF POWER

Ministry of Power

1.	Shri Hari Shankar Brahma	—	Secretary
2.	Shri Anil Kumar	—	Additional Secretary
3.	Shri G.B. Pradhan	—	Additional Secretary
4.	Shri I.C.P. Keshari	—	Joint Secretary
5.	Shri Sudhir Kumar	—	Joint Secretary

Central Electricity Authority

1.	Shri Rakesh Nath	—	Chairperson
2.	Shri S.M. Dhiman	—	Member
3.	Shri S. Sheshadri	—	Member

Public Sector Undertakings/Autonomous Bodies/Statutory Bodies

1.	Shri R.S. Sharma	—	CMD, NTPC
2.	Shri S. Biswas	—	Chairman, DVC

Ministry of Petroleum and Natural Gas

1.	Shri R.S. Pandey	—	Secretary
2.	Shri Apurva Chandra	—	Joint Secretary

Ministry of Coal

1.	Shri C. Balakrishnan	—	Secretary
2.	Shri Alok Perti	—	Additional Secretary
3.	Dr. A.K. Sarkar	—	Director (Marketing), Coal India Ltd.

2. In the absence of the Chairman, the Committee chose Shri Santosh Bagrodia, a Member of the Committee to act as Chairman for the sitting in accordance with Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. At the outset, the Chairman, welcomed the members of the Committee and the representatives of the Ministries of Power, Petroleum and Natural Gas and Coal to the sitting of the Committee and emphasized the need for adequate and uninterrupted supply of Gas and Coal to Power Sector.

4. Thereafter, the representatives of the Ministry of Power made a brief power-point presentation on the subject 'Availability of Gas and Coal for Power Sector'.

5. The Committee discussed with the representatives of the Ministry of Power, Ministry of Petroleum and Natural Gas and Ministry of Coal on the following important points relating to the subject:—

(i) Steps taken by the Government to enhance coal production, development of coal blocks by various power utilities, acquisition of coal mines in other countries and other steps being taken to augment the production of coal.

(ii) Steps taken by the Ministry of Petroleum and Natural Gas for making available requisite quantity of gas to power sector including action for installation of Iran gas pipeline project.

(iii) Steps taken by the Ministry of Power for coordination with Ministries of Petroleum and Natural Gas and Coal; bringing the matter before EGOM for higher allocation of gas and implementation of gas utilization policy, etc.

6. The Members sought clarifications on various issues relating to the subject and the representatives of the Ministries responded to the same. The Committee directed the representatives of the Ministries to furnish written replies to the queries which could not be responded to by them.

7. The Committee decided to seek details from the Ministry of Environment and Forests on the subject in the next sitting.

8. A verbatim record of the proceedings of the sitting of the Committee has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE FIFTEENTH SITTING OF THE STANDING COMMITTEE ON ENERGY (2009-10) HELD ON 22nd APRIL, 2010 IN COMMITTEE ROOM 'D' PARLIAMENT HOUSE ANNEXE, NEW DELHI

The Committee sat from 1500 hrs. to 1715 hrs.

PRESENT

Dr. K.S. Rao — *In the Chair*

MEMBERS

Lok Sabha

2. Shri Adhir Ranjan Chowdhury
3. Shri Shripad Yesso Naik
4. Shri Jagdambika Pal
5. Shri Ravindra Kumar Pandey
6. Shri M.B. Rajesh
7. Shri Ganesh Singh
8. Shri Radha Mohan Singh
9. Shri Vijay Inder Singla
10. Dr. E.G. Sugavanam

Rajya Sabha

11. Shri Motilal Vora
12. Shri Santosh Bagrodia
13. Shri Rama Chandra Khuntia
14. Shri Bhagat Singh Koshiyari
15. Shri Shyamal Chakraborty
16. Shri Govindrao Wamanrao Adik
17. Prof. Anil Kumar Sahani

SECRETARIAT

1. Shri Brahm Dutt — *Joint Secretary*
2. Shri N.K. Pandey — *Additional Director*
3. Shri Rajesh Ranjan Kumar — *Deputy Secretary*

REPRESENTATIVES OF THE MINISTRY OF POWER

Ministry of Power

1. Shri Hari Shankar Brahma — Secretary
2. Shri Anil Kumar — Additional Secretary
3. Shri G.B. Pradhan — Additional Secretary
4. Shri I.C.P. Keshari — Joint Secretary
5. Shri Devender Singh — Joint Secretary

Central Electricity Authority

1. Shri Gurdial Singh — Chairperson

Public Sector Undertakings/Autonomous Bodies/Statutory Bodies

1. Shri P.Uma Shankar — CMD, REC
2. Shri R.S. Sharma — CMD, NTPC
3. Shri Satnam Singh — CMD, PFC
4. Shri S.K. Chaturvedi — CMD, PG
5. Shri S. Biswas — Chairman, DVC

Ministry of Coal

1. Shri C. Balakrishnan — Secretary
2. Shri Alok Perti — Additional Secretary
3. Shri P.R. Mandal — Advisor (Projects)
4. Shri Kailashpati — Economic Advisor

Coal India Ltd.

1. Shri P.S. Bhattacharya — Chairman

2. In the absence of the Chairman, the Committee chose Dr. K.S. Rao, a Member of the Committee to act as Chairman for the

sitting in accordance with Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. At the outset, the Chairman welcomed the members of the Committee and the representatives of the Ministry of Power and the Ministry of Coal to the sitting of the Committee and expressed concern over the generation loss in power sector due to inadequate supply of coal. He emphasized on need of perspective planning by having better coordination between the Ministries of Power and Coal to ensure the adequate availability of coal for power sector in the long run.

4. The following important points relating to the subject were discussed during the meeting with the representatives of the Ministry of Power and the Ministry of Coal.

(i) Availability of coal *vis-a-vis* requirement for power sector for 11th and 12th Five Year Plans. Action Plan by the Ministry of Coal to increase the production of coal.

(ii) Import of coal for power sector to bridge the gap caused by the inadequate availability of indigenous coal.

(iii) Need for the development of carrying capacity and tracks/ sections by the Railways commensurate with increasing requirement of power sector and expediting construction of Dedicated Freight Corridors.

(iv) Barriers in development of Captive Coal Mines–Land acquisition, Forest clearance etc.

(v) Acquisition of Coal Blocks abroad to meet the domestic demands.

5. The Committee sought clarifications on various issues relating to the subject and the representatives of the Ministries responded to the same. The Committee directed the representatives of the Ministries to furnish written replies to the queries which could not be responded to by them during the sitting.

6. The Committee also decided to undertake a Study Visit to North East and other parts of the country to have first hand information about various power projects in the country after conclusion of the Budget Session.

7. A verbatim record of the proceedings of the sitting of the Committee has been kept.

The Committee then adjourned.

STANDING COMMITTEE ON ENERGY

MINUTES OF THE TWENTIETH SITTING OF THE STANDING COMMITTEE ON ENERGY (2009-10) HELD ON 10th AUGUST, 2010 IN COMMITTEE ROOM 'G-074' PARLIAMENT LIBRARY BUILDING, NEW DELHI

The Committee sat from 1500 hrs. to 1530 hrs.

PRESENT

Dr. K.S. Rao—*In the Chair*

MEMBERS

Lok Sabha

2. Shri Adhir Ranjan Chowdhury
3. Shri Ram Sundar Das
4. Shri Sanjay Nirupam
5. Shri Jagdambika Pal
6. Shri Ravindra Kumar Pandey
7. Shri M.B. Rajesh
8. Shri Vijay Inder Singla
9. Shri Subhash Bapurao Wankhade

Rajya Sabha

10. Shri Motilal Vora
11. Shri Bhagat Singh Koshiyari
12. Shri Govindrao Wamanrao Adik
13. Shri Mohammad Shafi
14. Prof. Anil Kumar Sahani

SECRETARIAT

1. Shri Brahm Dutt — *Joint Secretary*
2. Shri N.K. Pandey — *Additional Director*
3. Shri Rajesh Ranjan Kumar — *Deputy Secretary*

2. In the absence of the Chairman, the Committee chose Dr. K.S. Rao, a Member of the Committee to act as Chairman for sitting in accordance with Rule 258(3) of the Rules of Procedure and Conduct of Business in Lok Sabha.

3. At the outset, the Chairman welcomed the Members of the Committee. The Committee then took up for consideration the draft Reports on

(i) 'Availability of Gas and Coal for Power Sector' and

(ii) 'Renewable Energy for Rural Applications'.

4. The Committee adopted the aforementioned draft Reports with slight changes.

5. The Committee then authorized the Chairman to finalise the Report taking into consideration the consequential changes arising out of factual verification, if any, by the concerned Ministries and also to present the same to both the Houses of Parliament.

The Committee then adjourned.

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